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ABSTRACT

This final report contains a history and description of a project called New Designs for the Two-Year Institution of Higher Education (NDTYI). The goal of NDTYI was to begin an earnest search for synergies that will better connect educational institutions with the culture in ways that create resources and multiply desired results. NDTYI focused on several target audiences that were involved in the project's development and implementation, including administrative leaders responsible for both designing new institutions and restructuring institutions, and policy makers for higher education. In order to fulfill its goals, NDTYI had to develop an innovative design process and viable design specifications. This report is organized based on the design elements, with each chapter discussing one element in the process. The first chapter provides an introduction to the project's goals and implementation. The remaining chapters discuss the NDTYI's design elements, which include the context, signature, outcomes, process, organization, partnerships, staff and development, environment, finance, celebration, and transitions to new designs. Appendices include a list of the designers, national design group meeting agendas, and contacts for illustrations of new designs. Contains 286 references. (YKH)

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NEW DESIGNS FOR THE TWO-YEAR INSTITUTION OF HIGHER EDUCATION: FINAL REPORT

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NEW DESIGNS FOR THE TWO-YEAR INSTITUTION OF HIGHER EDUCATION: FINAL REPORT

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by George H. Copa and William Ammentorp

Benchmarking New Designs for the Two-Year Institution of Higher Education

Benchmarking is the process of identifying, understanding, and adapting outstanding practices from organizations anywhere in the world to help your organization improve its performance. The benchmark studies included in this report are offered as exemplars of the processes meeting the design specifications for 21st century two-year institutions of higher education, as described in *New Designs for the Two-Year Institution of Higher Education*, MDS-1109. They are meant to be illustrative rather than definitive in showing how two-year institutions are responding thoughtfully to change and meeting student and community needs in new, cost-effective ways. By G. H. Copa, W. Ammentorp.
MDS-1108/$9.50

New Designs for the Comprehensive High School

This report describes a new design for secondary schools in the United States. The design draws on a historical and international review of secondary school practices and on meetings with students, teachers, and members of the business community. Special attention is given to outcome-based education strategies, integration of vocational and academic education, educational reform and transition in the future, and giving the school a unique focus and character. Recommendations also address the processes and questions communities would need to consider to design or restructure their own high schools. The appendices are a series of research and synthesis papers which form the background for the report itself. By G. H. Copa, V. H. Pease.
MDS-282/December 1992/$35.50

A Sourcebook for Reshaping the Community College: Curriculum Integration and the Multiple Domains of Career Preparation

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MDS-782/October 1997/$17.50

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ACKNOWLEDGMENTS

The overall purpose of the New Designs for the Two-Year Institution of Higher Education (NDTYI) project is to bring the best ideas from research and practice to bear on the design of two-year institutions. In this report, we present a design process, a set of design specifications, some initial new designs for two-year institutions, and the supporting rationale that are in keeping with the vision set forth above.

We have had much help along the way and many of their names are presented in the first appendix to this report. However, we give special thanks to the following individuals:

- The National Design Group for giving constant encouragement and sage guidance with far horizons.
- The New Designs Work Group for helping to develop and pilot test our design process.
- The many practicing staff of two-year institutions as well as others in several graduate courses and workshops sponsored by the Leadership Academy for Two-Year Institutions of Higher Education at the University of Minnesota for also testing and critiquing our design processes.
- The many two-year institution students and staff, and community representatives who participated in focus group interviews for pointing the way and giving fresh insights.
- Sandra Krebsbach for assistance in coordinating and carrying out the day-to-day work of the project with enthusiasm and persistence.
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- To the U.S. Department of Education, Office of Vocational and Adult Education through the National Center for Research in Vocational Education at the University of California at Berkeley and its directors, Charles Benson, who got us started, and David Stern, who brought us to completion, for providing the opportunity and financial support to make this all happen.
- To the University of Minnesota site of the National Center and its director, Charles Hopkins, for making this project a priority and constantly nurturing its progress.

Thank you very much to a cast of hundreds.

As this summary report is being prepared, our project work continues as we

- identify and describe the practices of benchmark institutions who have already put in place some of the design specifications we have recommended.
- provide technical assistance to two-year institutions with an interest in applying the design process to their context.
- form partners to assist in disseminating and implementing our recommendations.
- provide training through workshops, conferences, and special interest institutes across the United States and internationally.

EXECUTIVE SUMMARY

Change is not an option—it is an inevitability. The tremendous changes in the culture that surrounds and impacts higher education have created both crisis and opportunity. As presently organized and delivered, higher education is no longer sustainable pedagogically, technologically, or economically.

The consequence of culture change is most evident in our common lifeplaces—work, family, and community. Within higher education, the two-year institution is closest to these lifeplaces and therefore to the challenges and opportunities they hold. We must begin an earnest search for the synergies that will better connect our educational institutions to our culture in ways that free and create resources and multiply desired results. This is the challenge and the opportunity of New Designs for the Two-Year Institution of Higher Education (NDTYI).

Envision . . . . .

- an educational institution that reawakens the potential of all learners, staff, and community.
- an educational institution that has a special spirit that gives coherence and meaning to all dimensions of the learning experience, as well as pride and joy in its results.
- an educational institution that levels the "playing field" for all learners, giving multiple pathways to learn what is most valuable to know and be able to do.
- an educational institution that works so closely with the community that borders are completely blurred and blended—so learning can occur any place and any time.
- an educational institution that is always vibrant, responsive, and on the "cutting edge" in what is learned and how it is learned.
- an educational institution that can confidently find the resources to do what it sets out to do.

This is the vision implicit in the NDTYI specifications.

NDTYI had three purposes. The first was to develop a design process that was sufficiently powerful to overcome traditional approaches and responses to designing two-year institutions of higher education. The second purpose was to develop a set of design specifications for an effective 21st century two-year institution of higher education. The third purpose was to develop and/or identify and describe new designs for two-year institutions that met the design specifications in order to make the specifications real and concrete for use in dissemination, training, and implementation.

NDTYI focuses on several target audiences: (1) administrative leaders responsible for designing entirely new institutions; (2) administrative leaders responsible for major restructuring through merger, re-engineering, or downsizing of institutions; and (3) policymakers at the local, state, and federal levels responsible for policy, regulations, and funding of two-year institutions of higher education. These target groups were involved in the project's development and implementation, as well as in reporting and dissemination plans.

The design process consists of ten elements, executed in a particular order, referred to as "designing down." The design elements are (1) learning context, (2) learning signature, (3) learning outcomes, (4) learning process, (5) learning organization, (6) learning partnerships, (7) learning staff and staff development, (8) learning environment, (9) learning finance, and (10) learning celebration. The elements of the design-down process follow this specified sequence so as to get careful alignment among the elements and to get "first questions first." The idea is to ensure that the design fits the needs of the local situation and proceeds in a logical order from aims to actions to supporting structure, processes, and environment. The design process is envisioned as being like a seminar where knowledge and experiences are shared among a design group. The design group is made up of representatives of all major stakeholders in the institution.

In NDTYI, several sources of information served as ingredients to the design process. These sources of information were best professional practices in two-year institutions of higher education nationally and internationally; the latest research on higher education relating to each of the design elements; reports advocating revision and reform of higher education; focus group interviews with students, faculty, administrators, other staff, and external stakeholders; and a National Design Group selected to reflect broad representation of leadership and stakeholders in the future of the two-year institution of higher education. This report is organized based on the design elements, each chapter discussing one element in the design process, with the exception of the beginning chapter, which provides the project's purpose, focus, and process, and the ending chapter, which summarizes the report and provides future direction for transitions to new designs.

NDTYI must meet the needs of a particular context or situation. Chapter Two describes the context in terms of assets to be carried forward into the future, problems with the current institutional operation, opportunities to be taken advantage of in new designs, and aspirations to be accomplished by the institution. This chapter presents the design assumptions for NDTYI, the changing context of higher education in the United States with emphasis on the two-year institution, and the design criteria for NDTYI.

The focus of Chapter Three is on the learning signature. The learning signature is a powerful shorthand way to represent the institution to its staff, students, and the public. In NDTYI, the purpose of the learning signature element is to provide explicit and early focus on the identity of the two-year institution of higher education in relation to its learning context. The following is presented in Chapter Three: the purpose of the learning signature and the process used to develop design specifications and new designs for the learning signature in NDTYI; the connection of the learning signature to the design criteria presented in the section on learning context; the design specifications for an effective learning signature; and the learning signature themes developed by the National Design Group, the resulting NDTYI learning signature, and exemplary new designs for the learning signature.

Learning outcomes is the focus of Chapter Four. Learning outcomes refer to the added competence (value) developed by a learner through a learning experience. Because of the centrality of teaching and learning to the mission of two-year institutions of higher education, the learning outcomes become a powerful force or keystone in designing the institution and its way of operation. Chapter Four presents the purpose and process of developing new designs for learning outcomes, the connection of learning outcomes to the design criteria and the learning signature, a set of design specifications for guiding and reviewing the development of learning outcomes for a specific institutions, and a set of learning outcomes developed as part of the NDTYI project and exemplary new designs for learning outcomes.

Chapter Five provides a description of the learning process for new designs for the two-year institution of higher education. The learning process needs to be designed to respond to the learning context of a two-year institution and its learning signature and learning outcomes. The prior selection of learning outcomes plays a central role in designing the institution's learning process. Chapter Five discusses the purpose and process of developing new designs for the learning process, the connection of the learning process to the previous elements in the design process, key concepts regarding the learning process, design specifications developed for learning processes for two-year institutions, and exemplary new designs for the learning process.

Chapter Six focuses on the learning organization for two-year institutions. For the learning process to be successful in reaching the learning outcomes in a manner called for by the learning signature, a learning infrastructure or organization must be put into place and continually improved upon. Chapter Six presents the purpose and process of developing new designs for the learning organization, the connection of the learning organization to the previous elements in the design process, key concepts regarding the learning organization, design specifications developed for the learning organization for two-year institutions, and exemplary new designs for the learning organization.

The purpose of Chapter Seven is to define and apply the construct, "partnership," to NDTYI. The link between higher education institutions and their communities takes the form of learning partnerships or alliances with public and private sector organizations. Research and best practices relating to partnerships in education and other inter-organizational contexts are reviewed in this chapter. In addition, the meaning of being partners, the process of partnerships, and the links between two-year institutions of higher education and various categories of partners are explored. Design specifications for learning partnerships follow from this review and exploration. Finally, examples of new designs for learning partnerships are presented.

The purpose of Chapter Eight is to describe and rationalize a set of design specifications for the learning staff and staff development for NDTYI. The purpose of learning staff and staff development as an element of the design-down process is to underscore the importance of the staff to NDTYI. The attitude and competence of staff with regard to NDTYI are central to feasible implementation. The purpose and process of developing new designs for the learning staff and staff development are discussed in

Chapter Eight. Following this discussion, the connections between the learning staff and staff development and the previous elements in the design process are presented. Then the key concepts and the design specifications for staff and staff development resulting from focus group interviews and discussions of the National Design Group are described. Last, exemplary new designs for staff and staff development are recommended.

The focus of Chapter Nine, the learning environment, includes attention to both technology and facilities needed to support the design specifications recommended in the previous elements of the design process. Key questions addressed in this chapter concern the desired nature of the relationship between learning experiences and the learning environment, design specifications for the environment, and exemplary new designs for the learning environment of two-year institutions.

Chapter Ten centers on learning finance for NDTYI. Learning finance is critical to the implementation of NDTYI recommendations. Chapter Ten outlines an approach to financial management that links institutional resources to NDTYI and its work, identifies key concepts and design specifications for learning finance for NDTYI, and provides examples of exemplary practice regarding learning finance.

The final element in NDTYI, learning celebration, is presented in Chapter Eleven. Learning celebrations have to be designed in consideration of all of the processes and steps involved in the redesign of the whole institution. In addition to discussing the purpose and process of learning celebrations and connecting celebrations to the previous elements in the design process, Chapter Eleven also presents key concepts and design specifications for learning celebrations and exemplary new designs focused on learning celebrations.

The final chapter of the report offers a perspective on and strategies for organizational change that show how current practices and structures can be modified to move toward NDTYI. Putting new designs to work in the two-year institution is a major undertaking. Old paradigms and their associated practices must be challenged and, in many cases, fundamentally changed. As we look to the next century, it is clear that higher education will experience a host of new challenges and opportunities. These will result in pressures on institutions that cannot easily be countered by conventional organizations and educational practices. Instead, new designs will be required and institutional forms will need to be invented to enable institutions to adapt to their environments and to assist stakeholders in dealing with change.

Two-year institutions are at the center of change in higher education. They are the linking organization that helps people of all ages connect to our common lifeplaces in work, family, and the community. Furthermore, they are the pathway whereby access to opportunity is afforded to many otherwise excluded from higher education. The new designs envisioned in NDTYI "dance with change," seek out and use interdependencies, and lead the way to higher education that is excellent and sustainably so—pedagogically, technologically, and economically.

CHAPTER ONE:
INTRODUCTION*

This section provides an introduction to the project, New Designs for the Two-Year Institution of Higher Education (NDTYI), conducted during calendar years 1995 and 1996. Sections of the introduction will address the purpose of the project, its focus in terms of institutions and motivations, and the research and development process used to achieve its purpose.

Project Purpose

NDTYI had three purposes. The first was to develop a design process that was sufficiently powerful to overcome traditional approaches and responses to designing two-year institutions of higher education. Two-year institutions (TYIs) face serious threats to standard operating procedures as will be evident later in this report. A way was needed to jar institutional planning out of its current ruts and create "new space" within which to think about institutional purposes, structures, and operations.

The second purpose was to develop a set of design specifications for an effective 21st century TYI. The challenge first was voiced by those involved in implementing concepts from an earlier National Center for Research in Vocational Education project, New Designs for the Comprehensive High School. High school stakeholders were asking what college should be like in view of the proposed design specifications for the 21st century high school. We decided to focus on only the first two years of college, particularly in the context of TYIs. The design specifications for future TYIs were to be built on best knowledge we could find to support effective educational practice. We proposed to start from scratch with few assumptions about what was needed and how needs should be met, always questioning conventional thinking and practice. The resulting design specifications were to serve as the criteria for an alternative model of TYIs—a way to stretch thinking and stimulate responsible critique of current practice.

The third purpose was to develop and/or identify and describe new designs for TYIs that met the design specifications referred to above. The new designs were to make the design specifications very real and concrete for use in dissemination, training, and implementation. In some elements of the design process, the project was used to develop actual new designs for institutional practice as will be illustrated in later sections of this report. For other design process elements, the project used a different route—identifying and describing actual institutional practices that met the proposed design specifications.

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* This section was written by George Copa.

Project Focus

The work of the project was focused in two different ways—by type of institution and by motivation for considering new designs. First, the project focused only on TYIs and not four-year colleges and universities. TYIs included technical institutes and colleges, community colleges, and private proprietary schools. TYIs offer a wide variety of programs culminating in certificates, diplomas, and associate degrees. As shown in Table 1, there were 7,638 public and private postsecondary institutions offering less than four-year programs in the United States in 1994. Of this total, 2,010 offered less than one year of instruction; 3,038 offered at least one year but less than two years of instruction; 1,144 offered the associate degree, and 1,446 offered two years but less than four years of instruction. Only 1,534 of the 7,638 institutions offering less than four-year programs were public institutions. When only the institutions that are accredited at the higher education level by an agency recognized by the U.S. Department of Education were counted, the total number of less than four-year institutions dropped from 7,638 to 1,443 institutions (U.S. Department of Education, 1994). Of the 1,443 accredited postsecondary institutions, 99% are those that offer the associate degree or two years, but less than four years of instruction. From another source, there were 1,472 community colleges in 1991 of which 1,291 were public institutions (Vaughan, 1995). Therefore, we estimate that there are about 1,500 accredited public and private TYIs in the United States. In 1992, community colleges enrolled more than 5.7 million students in credit courses (p. 1). Vaughan goes on to state, "More than 50 percent of all first-time college students in the United States attended a community college, and more than 45 percent of all minority students enrolled in higher education in America attended a community college" (p. 2). The general educational structure of the United States is shown in Figure 1. The figure depicts the place of the TYI in relation to secondary education and other forms of higher education. Comparable European educational institutions comprise the later years in higher level vocational schools and the earlier years in polytechnic institutions.

Table 1

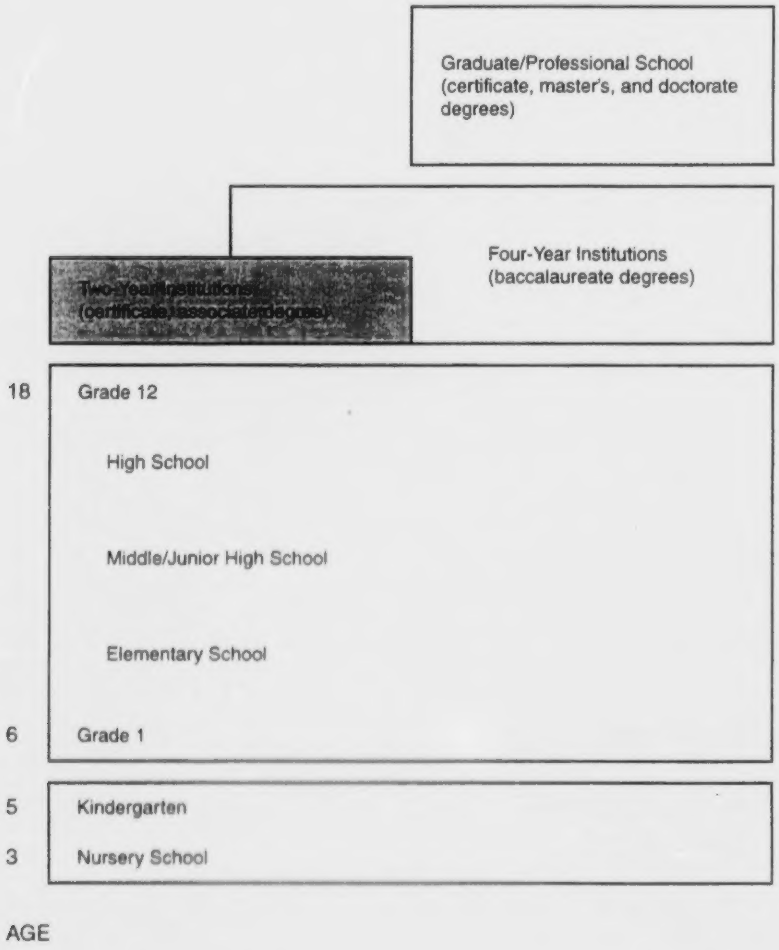
Number of Postsecondary Institutions, by Control and Highest Level of Offering: 50 States and the District of Columbia, Academic Year 1993-1994

Highest Level of Offering*	Total	Public	Private	
			Nonprofit	For-Profit
All institutions	10,369	2,152	2,890	5,327
Less than one year	2,010	40	157	1,813
One but less than two years	3,038	237	175	2,626
Associate's degree	1,144	628	147	367
Two but less than four years	1,446	629	467	350
Bachelor's degree	790	96	631	63
Postbaccalaureate certificate	160	11	125	24
Master's degree	830	178	602	50
Post-master's certificate	188	99	87	2
Doctor's degree	675	228	427	20
Other/did not respond	88	6	70	12

* In addition to the highest levels of offering shown here, first-professional degrees or certificates were offered by 150 public institutions, 505 nonprofit schools, and 21 institutions classified as for-profit.

Sources: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (PEDS), *Institutional Characteristics Survey, 1993-94*; U.S. Department of Education (1994).

Figure 1
Place of Two-Year Institutions in the
Higher Education System of the United States


Graduate/Professional School
(certificate, master's, and doctorate degrees)
Four-Year Institutions
(baccalaureate degrees)
Two-Year Institutions
(certificate, associate degree)
18
Grade 12
High School
Middle/Junior High School
Elementary School
6
Grade 1
5
Kindergarten
3
Nursery School
AGE

The project also focused on a particular target audience in terms of motivations for considering major changes in the above-mentioned institutions. Three specific groups were of interest: (1) administrative leaders responsible for designing entirely new institutions (e.g., the Homestead campus in Florida, which was destroyed by a hurricane; the two new campuses to be built by the Maricopa Community College district in Phoenix, Arizona), (2) administrative leadership responsible for major restructuring (merger, re-engineering, downsizing) of institutions (e.g., merger of technical and community colleges in

Connecticut and Minnesota), and (3) policymakers at the local, state, and federal levels responsible for policy, regulations, and funding for TYIs. Care was taken in the project development and operation to involve these target groups and ensure that they are a part of reporting and dissemination plans.

Project Process

This section of the report will describe the design process used in developing specifications for a future-oriented TYI, the sources of information used as ingredients to the process, and the way in which the design process was implemented. Each of these components is a product of the project in the sense of providing a strategy or "roadmap" for design in a particular institutional setting.

Design Process

The design process was made up of ten elements, executed in a particular order, referred to as "designing-down." The design process is shown in Figure 2. The elements were addressed in a particular order so as to get careful alignment among the elements and to get "first questions first." The idea is to ensure that the design fits the needs of the situation and proceeds in a logical order from aims to actions to supporting structure, culture, and environment. Each of the design elements will now be described.

Figure 2
New Designs Process

Learning Context
↓
Learning Signature
↓
Learning Outcomes
↓
Learning Process
↓
Learning Organization
↓
Learning Partnerships
↓
Learning Staff and Staff Development
↓
Learning Environment
↓
Learning Finance
↓
Learning Celebration

Learning Context

Each design for a TYI must meet the needs of a particular context or situation. The context is described in terms of problems with current institutional operation, opportunities to be taken advantage of with a new institution, and goals to be accomplished by the new institution. Studying and analyzing the learning context results in a set of design criteria for use in guiding and monitoring the accomplishments of the other design process elements.

Learning Signature

Learning enterprise designs are given direction and energy by the symbols and metaphors representing the hopes and expectations of policymakers, educators, and their students. An effective design process must first try to elicit and understand these hopes and expectations as a way to give coherence and focus to learning design. Often, the signature takes form through symbols and metaphors (e.g., words, pictures, people, stories, objects) representing a deeply shared perspective on the learning enterprise.

Learning Outcomes

Globalization and its associated complexity demands that TYIs have a clear idea of the value to be added by the learning enterprise as a starting point for program improvement. In short, TYI leaders must clearly know the competencies, standards, or results they want to produce for and through the learners. At the same time, students must be able to see what TYIs can do for them in terms of their personal development.

Learning Process

Learning outcomes are accomplished through the design of an appropriate learning process, traditionally viewed in terms of the language of curriculum, instruction, and assessment. Too often, the attention in higher education is to teaching in contrast to learning and to subject matter (curriculum) at the expense of instruction and assessment. Most faculty in higher education are not required to study the learning process; instead, they center almost solely on subject matter. If TYIs are to address the learning design challenges and opportunities of the future, they must have a working language and knowledge of the learning process with foundations in human development.

Learning Organization

For the learning process to be successful in reaching the learning outcomes in a manner called for by the learning signature, a learning infrastructure or organization must be put into place and continually improved. The learning infrastructure is made up of the organization of learners, learning time, learning settings, subject matter, staff, technology, and learning environment. It is here that new designs for TYIs are most clearly visible. Familiar physical and organizational forms of higher education are unlikely to be responsive to the needs of students and the changing nature of society and its lifeplaces (e.g., work, family, community).

Learning Partnerships

The link between higher education institutions and their communities takes the form of learning partnerships between public and private sector organizations. TYIs can no longer "go it alone"; they have neither the resources nor the knowledge to be set apart from their surroundings. Instead of the "ivory tower" of the past, higher education institutions of the future will be ever more closely integrated with their communities and will bear increasing responsibilities for the quality of life of those who support and benefit from their work.

Learning Staff and Staff Development

The changed perspective suggested above mandates parallel development of teachers, administrators, and support personnel ready to adapt TYIs to new realities. Higher education will need to identify, train, and support leaders who can shape curricula and student experience in forms indicated by ever-changing learning expectations and processes.

Learning Environment

The driving force for higher education has shifted from the traditional—static—subject matters to a dynamic view of knowledge and its use. Information technology has been and will continue to be a pivotal force in this development; it has redefined the process of knowledge creation, transmission, and application. Learning technology has become one of the major considerations in any new design for the learning environment for TYIs. After noting the design elements above, consideration should shift to the physical and social environment of the institution. New designs will not be constrained by architectural forms nor will they be limited to traditional educational practices; they will be motivated by the dynamic integration of higher education institutions with their students and communities. Learning environments will include consideration of settings such as home, workplace, community, and school.

Learning Finance

This element of the New Designs process concerns both the cost and revenues for higher education. Key strategies concerning cost include cost containment, improved efficiency, re-engineering, and privatization. On the revenue side, strategies include institutional development, new products and services, partnerships, and new markets.

Learning Celebration

The New Designs process is integrated by the cultural symbols and practices of all those associated with TYIs. Learning experiences and their applications are continually reinforced through celebrations whereby the community confirms the relevance of the work of higher education.

While the elements are presented in linear, downward order, the process also involves moving upward and among the design process elements to ensure close alignment and internal consistency and coherence. Close alignment of the elements is needed to realize quality and efficiency in operation of the TYI.

Sources of Information

The design process is envisioned as being like a seminar, where knowledge and experiences are shared among a design group with the purpose of mutually "learning their way into" new designs for a higher education institution that meet the needs of the context they have at hand. The knowledge and experience include that possessed by the group itself as well as what can be brought to the group from others. In NDTYI, several sources of information served as ingredients for the design process.

Best Professional Practice

Care was taken to scan professional practices nationally and internationally to identify the best used by TYIs. We looked for effective and innovative places, leadership, and concepts for possible use in developing New Designs specifications for each of the elements of the design as described above. At each design element, we also looked for professional practices outside of public higher education for ways to improve the design process and specifications.

Latest Research

We also searched for the latest research on higher education relating to each of the design components. As with the scan for best practice, we searched for ideas and concepts from outside of higher education that might prove worthy of adaptation. We particularly examined NCRVE's past and present research and development work for study findings and recommendations that were appropriate to include in New Designs specifications.

Reform Reports

We examined several of the reports advocating revision and reform of TYIs for recommendations and supporting rationale that deserved consideration in the design process. We wanted to ensure that we were making use of previous studies and planning of TYIs and were not merely reinventing what had already been reported. Sometimes these reports addressed only certain elements of the design process. Our contribution was unique in addressing the full range of elements and striving for alignment in the recommendations among all of the elements.

Focus Groups

Group interviews were used in the design process in order to get first-hand views of many of the design elements. Interviews were held with groups of students, faculty, administrators, and external institutional partners. The group interviews held for each of the selected design elements were as follows:

- Learning Outcomes

  San Diego Community Colleges, San Diego, California, students
  Tunxis Community-Technical College, Farmington, Connecticut, faculty and staff
  Miami-Dade Community College, Miami, Florida, faculty and staff

- Learning Process

  Red Rocks Community College, Denver, Colorado, administrators

- Learning Organization

  DeKalb Community College, Atlanta, Georgia, faculty

- Learning Partnerships

  Miami-Dade Community College, Miami, Florida, external partners

- Learning Staff and Staff Development

  Miami-Dade Community College, Miami, Florida, faculty

Each of the group interviews was tape recorded, transcribed, and analyzed for implications for the design specifications and discussion by the National Design Group.

National Design Group

The National Design Group was selected to give broad representation by the leadership and stakeholders in the future of TYIs. They were also selected to give diverse perspectives in terms of gender, ethnicity, and geographic location. The following individuals were the members of the National Design Group:

- Jacquelyn Belcher, past Chair of the American Association of Community Colleges and President of DeKalb Community College in Georgia
- Paul Cole, Vice President of American Federation of Teachers and Secretary-Treasurer of the New York State AFL-CIO and member of the National Skill Standards Board
- James Frasier, a corporate training executive at Motorola University
- Augustine Gallego, Chair of the American Association of Community Colleges and Chancellor of San Diego Community Colleges
- Dorothy Horrell, President of Red Rocks Community College in Denver, Colorado
- Bruce Jilk, nationally know architect and educational planner specializing in educational environments with the Cuningham Group located in Minnesota
- Robert McCabe, former President of Miami-Dade Community College, now Senior Fellow with the League for Innovation
- Sally Novetzke, a community volunteer who works with Kirkwood Community College in Iowa
- Ruth Silverthorne, Director of Multicultural Services at Skagit Community College in Mt. Vernon, Washington

The National Design Group provided guidance on important issues needing attention, the resolution of issues, and the development of design specifications for NDTYI. They played a very significant role in forming the institutional design recommended in this report.

Process of Work

The process used in the project to work through the design elements occurred as a series of interactive steps. The meetings of the National Design Group served as a major organizer for the project. The agendas for the meetings are shown in Appendix 2 of this report. Each meeting was preceded by the project staff's development of a draft paper on the design elements to be addressed at the meeting. The draft paper was sent to the National Design Group just prior to the meeting for its review and discussion at the meeting. Following discussion at the meeting, the draft paper was revised and a set of design specifications for the element was put forth. Where focus group interviews were conducted on a design element, the results were presented to the National Design Group for its consideration. The meetings of the National Design Group were held in the following sites:

- Meeting I—Minneapolis, Minnesota
- Meeting II—St. Paul, Minnesota
- Meeting III—Miami, Florida
- Meeting IV—Atlanta, Georgia (with telephone follow-up to those not present)
- Meeting V—Minneapolis, Minnesota

At each of the meetings, we invited several individuals from local TYIs to serve as resource persons. The list of resource persons is presented in Appendix 1 of this report. As part of the Miami, Florida, meeting, we visited three of the campuses of Miami-Dade Community College. The project staff was responsible for the final form of the report and for the wording of design specifications.

Design Criteria

Development of an appropriate set of design criteria for NDTYI was a significant element in the design process. These criteria guided the response to design specifications and the selection or development of exemplary new designs for the remaining elements of the design process. The resulting design criteria are grounded in a close examination of the context of TYIs in the United States—their problems, assets, opportunities, and aspirations. The selected criteria are that new designs be imaginative, directional, responsive, collaborative, accountable, and resourced. In the view of the NDTYI staff, if new institutional designs are responsive to these criteria in all of the criteria's dimensionality, the resulting institutions will have good assurance of being successful (perceived as doing a good job), valued (perceived as doing a job worth doing), and used (perceived as a good investment by individuals and community).

Limitations

The major limitations of the project were in funding to support the review of research and best practices (we wanted to be even more thorough in identification of research and best practices), commissioning papers from experts on high-profile topics (as it was, the project staff wrote most papers), and meetings of the National Design Group (we wanted at least two more meetings at sites permitting visits to institutions exhibiting best practices). While additional resources would have permitted the development of an even better product, we appreciated the resources we did have and used them effectively.

Summary

The major products of this project are a design process, design specifications, and illustrative new designs for the TYI in the United States. Each can be used by a particular institution in its design or redesign for the 21st century. Our focus was on technical colleges and institutes, community colleges, and private, proprietary schools. We targeted the leadership of places that are building new institutions or undergoing significant institutional restructuring. We also targeted policymakers at the state and federal levels who are directing and funding TYIs. A ten-element design process was used to develop the design specifications for a 21st century, TYI using information about best practices, research, reform reports, focus-group interviews, and the National Design Group. The key limitation was funding for more extensive and enhanced design support and analysis.

CHAPTER TWO:
LEARNING CONTEXT*

The first element in the design process focuses on learning context and results in a set of design criteria to guide and monitor the development of design specifications and new designs in the elements to follow. As such, the description of learning context is arguably the most important element of the design process. It provides overall direction and ensures that the resulting design is tailored to the needs of a particular situation. The design criteria can be used as a "report card" to assess how the rest of the design process is progressing and to indicate needed adjustments.

This section is organized into the following parts: (1) the design assumptions for NDTYI, (2) the changing context of higher education in the United States with emphasis on the TYI, and (3) the design criteria for NDTYI. Before moving forward with these parts, an explanation is provided of how the learning context of TYIs was addressed for the purposes of NDTYI.

Process of Work in Addressing Learning Context

The process of work used to develop what is reported in this section started with a review of literature on the context of the TYI and discussions by the NDTYI Work Group. Work on the design assumptions was begun in preparation for a graduate course dealing with planning and evaluating TYIs, taught at the University of Minnesota during the spring of 1995 by George Copa. At about the same time, the NDTYI Work Group developed a preliminary set of characteristics of the context faced by TYIs on entering the 21st century and a preliminary set of design criteria that could be use to ensure that the NDTYI design specification and new designs were responsive and effective in addressing the context characteristics. A similar effort was undertaken as a class project in the graduate course noted above. The 21 participants in the graduate course were practicing administrators on TYI campuses or at the state system offices in Minnesota and Wisconsin. As a strategy for use in identifying the context of TYIs, each group was asked to first identify and prioritize the problems to be faced, the opportunities to be explored, and the goals to be sought by effective TYIs on entering the 21st century.

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* This section was written by George Copa.

At the first meeting of the National Design Group, members were asked to undergo the same activity of identifying problems, opportunities, and goals in view of the conclusions of major reports addressing the context of TYIs (provided by the project staff), other reports with which they were familiar, and their own experiences. The NDTYI Work Group then presented the preliminary design criteria it had developed from its efforts at describing the learning context. The strategy used in the project was aimed at getting the original thoughts of the National Design Group, but also benefiting from more extensive work by the NDTYI Work Group and the graduate class. Following the presentation to the National Design Group by the NDTYI Work Group, the National Design Group was asked to prioritize the problems, opportunities, and goals of TYIs that most needed attention in new designs for these institutions. The results of these efforts were used to revise the recommendations of the NDTYI Work Group regarding design criteria, and the revisions are presented below as the NDTYI's design criteria. This set of criteria was reviewed several times by the National Design Group at subsequent meetings. As a result of the review by the National Design Group, another section was added to the learning context description presented in this report. The added section focuses on the key dimensions of the changing context of TYIs—changes which must be faced and serve as a basis for interest in and real concern about new designs for these institutions. The design criteria serve as a response to the dimensions of change, providing strategic clues about how to proceed in the NDTYI.

Design Assumptions

As will be apparent later in this section, a key part of new designs for the TYI on entering the 21st century will be dealing with a changing context on several dimensions at the same time. With this in mind, we wanted to formulate a few assumptions that would capture the essence of the strategy that we felt would lead to an appropriate design stance or posture for effective TYIs in the future.

The first assumption we selected is shown in Exhibit 1. The assumption brings attention to the idea of viewing change as a friend rather than an enemy, and letting change assist in finding a productive, satisfying way into the future for higher education. In "dancing with change," the question arises, "Is the higher education institution or some outside organization or force leading the dance process?" Our answer is that perhaps the leadership changes from time to time, and that the study of dance from a multicultural perspective suggested that there are many forms of dance where there is no one leader. A whole community may be involved in an integrated way in the whole dance process. The same might be the case for TYIs—at times follower, at other times leader, and at times both or neither. Another characteristic of dance is that there are many unique in forms and manners, yet there are often clear patterns that identify particular dances, one from another. The agile and effective TYIs of the future will need to be astute in ascertaining patterns in complex and turbulent change as guides to mission, vision, and effective responses.

Exhibit 1
First Design Assumption for NDTYI

> "What is required now is a purposeful consideration of the alternatives an institution can imagine itself making, as well as a real discussion of the consequences of not changing at all. To convene such a conversation is to dance with change." Pew Higher Education Roundtable, 1994, p. 12A

The Pew report (Pew Higher Education Roundtable, 1994), from which the first design assumption is taken, goes on to note that convening the "conversation with change" is "to enter into a relation with a future not yet fully imagined. To demur, . . . is to let someone else choose your partner as well as call the tune" (p. 12A). They advise that the conversations emanate from "a strong collective sense of an institution's identity" (p. 12A). They must balance faculty collegiality with recognition that postponing painful steps is not an option, and draw on the best ideas of faculty for maintaining institutional energy and responsiveness.

The second design assumption is captured by Wheatley and Kellner-Rogers (1996) in a book entitled, *A Simpler Way*, and shown in Exhibit 2. Higher education must more clearly recognize and make use of its interdependencies with many individuals, organizations, associations, agencies, and communities. The challenge for TYIs that aspire to be really effective is to continuously seek and find many (large and small) synergies with other entities where resources can be leveraged and multiplied with positive, catalytic, and symbiotic impacts for all those involved. In the language of the Internet, institutions must be effective at "surfing for synergies" to improve their quality and effectiveness in the context of the problems, opportunities, and goals that they face with increasingly scarce resources.

Exhibit 2
Second Design Assumption for NDTYI

> "Everything participates in the creation and evolution of its neighbors. There are no unaffected outsiders. No one system dictates conditions to another. All participate together in creating the conditions of their interdependence." Wheatley & Kellner-Rogers, 1996, p. 14

Changing Context

As background for this section, several different reports will be reviewed that present descriptions of the changing context of higher education and, more particularly, TYIs. As noted above in the section on Process of Work in describing the learning context, except for the most recent reports, these are the materials that were presented to the NDTYI Work Group and National Design Group for their consideration in identifying the problems, opportunities, and goals to be addressed in NDTYI. The reports are presented in chronological order.

Assessing the Nature and Operation of Institutional Excellence in Vocational Education

In this report published by the National Center for Research in Vocational Education and authored by Wardlow, Swanson, and Migler (1992), the focus was on the essential elements that characterize exemplary vocational education institutions. This report is included here because vocational education institutions (e.g., technical institutes and colleges, private proprietary institutions) are an important form of the TYI, and vocational education programs are a major component of comprehensive community colleges, another form of the TYI. The fourteen institutions selected for study through a nomination process included six secondary and eight postsecondary (four technical colleges, one proprietary technical institute, and three community colleges) institutions scattered across the United States. The themes associated with effective institutions were categorized under the following headings: (1) School Climate, (2) Administration, (3) Teacher Attributes, (4) Student Attributes, (5) Vocational-Student Organization, (6) Curriculum, (7) Support Services, and (8) Institutional Marketing. Within this framework the following characteristics were described as being associated with institutional excellence:

- *School Climate*
    - *Ecology (physical and material) Dimension:* Effective institutions had attractive buildings and facilities; well-organized and attractively arranged classrooms and laboratories; adequate supplies, equipment, and resource materials; up-to-date equipment; and adequate or good facilities.
    - *Milieu (People) Dimension:* Effective institutions had good morale by teachers and students, a caring attitude toward students, camaraderie and respect within programs, low turnover of teachers and administrators, faculty input in hiring decisions, and faculty cooperation across departments.
    - *Social System (School Organization) Dimension:* Effective institutions had good communication among all personnel; trust and respect among faculty, support staff, and administrators; administrators knowledgeable about programs; collaborative decisionmaking; considerable input by teaching staff in hiring new teachers; and collegial teacher-to-teacher relationships.
    - *Culture (Norms, Beliefs, and Values) Dimension:* Effective institutions had overt focus on high standards, philosophy of importance of quality work, strong sense of mission, and unique traits or emphases that differentiated them from other similar institutions.
- *Administration*
    - *Leadership Style:* Effective institutions had administrations that were people-oriented and tended to delegate responsibilities to other staff.
    - *High Expectations:* Effective institutions had administrations with high-performance expectations for themselves and their staff.

  - *Risk Taking:* Effective institutions had administrations that were willing to take risks and start new ventures, were able to foresee trends and consequential events, and developed an atmosphere of creativity.
  - *Flexibility:* Effective institutions had administrations that supported new ideas and proposals and were willing to circumvent bureaucracies to solve problems.
  - *Vision and Sense of Mission:* Effective institutions had administrations that instilled a sense of vision and mission in students, staff, and communities.
- *Teacher Attributes*
  - *Caring Attitude:* Effective institutions had instructors who had genuine concern for each student, were patient and willing to create opportunities for students, and offered support beyond typically expected student–teacher relationships.
  - *Acceptance of Student Diversity:* Effective institutions had teachers who recognized that students differ in abilities, wants, and needs.
  - *Positive Climate and High Expectations:* Effective institutions had teachers who created an environment that was demanding and yet friendly and encouraging.
  - *Teacher Competence and Professional Demeanor:* Effective institutions had teachers who were adept in teaching methods and knowledge of subject matter and provided a positive professional work role model.
  - *Stability of Faculty and Staff:* Effective institutions had low teacher turnover.
- *Student Attributes:* Effective institutions had students with a strong sense of pride, positive feelings about being involved in programs, and high-performance expectations for themselves.
- *Vocational Student Organizations:* Effective institutions had active vocational student organizations, and students and faculty were actively involved in the organizations.

- *Curriculum*
    - *Content of Programs/Advisory Committees:* Effective institutions had curricula in some form of a competency-based framework, with content and staff training developed through advisory committees.
    - *Faculty Ownership:* Effective institutions had strong faculty ownership for the curriculum of the program through their major responsibility for developing, implementing, and updating it; and faculty took pride in course materials.
    - *A Dual Curriculum:* Effective institutions had curricula that addressed both current technical skills, effective personal development, and general problem-solving skills—a holistic education.
- *Support Services:* Effective institutions had well-developed support services for students, including general education programs, career counseling, and placement for students and clerical support for instructors.
- *Institutional Marketing:* Effective institutions had active marketing strategies focused on related industries and their geographic areas, faculty and advisory committees were involved in marketing, and the institutions were actively involved in their communities.

These themes were found to be consistent across institutions that were studied, both secondary and postsecondary. Wardlow et al. (1992) suggest that

> there is likelihood that the most effective way to develop these characteristics in an institution is for that institution to participate in a mentoring process with an exemplary institution, in which participants in the aspiring institution gain a holistic view of the concept of institutional excellence. (p. 42)

Report of the Wingspread Group on Higher Education (1993)

This set of discussions and report focused on the question, "What does society need from higher education?" It was sponsored by four foundations—The William and Flora Hewlett Foundation; The Johnson Foundation, Inc.; Lilly Endowment, Inc.; and The

Pew Charitable Trusts. The preface to the report of the prestigious group, chaired by former U.S. Secretary of Labor William Brock, states,

> An increasingly open, global economy requires—absolutely requires—that all of us be better educated, more skilled, more adaptable, and more capable of working collaboratively. These economic considerations alone mean that we must change the ways we teach and learn. But, an increasingly diverse society, battered (and that is not too strong a term) by accelerating change, requires more than workplace competence. It also requires that we do a better job of passing on to the next generation a sense of the value of diversity and the critical importance of honesty, decency, integrity, compassion, and personal responsibility in a democratic society. Above all, we must get across the idea that the individual flourishes best in a genuine community to which the individual in turn has an obligation to contribute. (p. i)

The report notes that there is no single "silver bullet cure" for higher education in the United States; rather, improvements will come campus by campus with discussion and action requiring, "honest introspection and some very hard and even controversial new thinking about its roles and responsibilities, principles, and priorities" (p. ii).

In challenging higher education to raise its learning outcome standards, the report states, "A disturbing and dangerous mismatch exists between what American society needs of higher education and what it is receiving" (p. 1). Citing changes in the economy, demography, culture, technology, and globalization, the challenge for institutions of higher education is to prepare individuals to "learn their way through life" (p. 2). The response to the question of what does society need from higher education advocated in the report, particularly as relates to TYIs, is as follows:

- It needs stronger, more vital forms of community.
- It needs an informed and involved citizenry.
- It needs graduates able to assume leadership roles in American life.
- It needs a competent and adaptable workforce.
- It needs an affordable, cost-effective educational enterprise offering lifelong education.

- Above all, it needs a commitment to the American promise—the idea that all Americans have the opportunity to develop their talents to the fullest. (p. 2)

The report issues three major challenges to higher education institutions:

1. *Taking values more seriously.* Each institution should ask itself "what it proposes to do to assure that next year's entering students will graduate as individuals of character more sensitive to the needs of community, more competent in their ability to contribute to society, and more civil in their habits of thought, speech, and action" (p. 9). In responding, the Wingspread Group in Higher Education notes that institutions should consider two key lessons: (1) the values institutions act on and exemplify in their own behaviors are much more powerful in teaching than is simply proclaiming values, and (2) there is no substitute for direct experience on campuses and in the world beyond in teaching values. Campuses must model and teach the skills of community in very active ways.

2. *Putting student learning first.* Institutions, both college and university, "must for the foreseeable future focus overwhelmingly on what their students learn and achieve" (p. 13). The emphasis on clearer and higher learner outcomes is a central strategy advocated for all institutions in the report's statement that putting student learning first means (among other things) that institutions

    - Define exactly what their entering students need to succeed.

    - Start from where the students begin and help them achieve explicitly stated institutional standards for high achievement.

    - Tailor their programs—curriculum, schedules, support services, office hours—to meet the needs of students they admit, not the convenience of staff and faculty. (p. 13)

    In the Wingspread Group's words, "Putting learning at the heart of the academic enterprise will mean overhauling the conceptual, procedural, curricular, and other architecture of postsecondary education on most campuses" (p. 14). And the overall response may need to be different for different students depending on their ability to handle independence, support, and challenging standards.

3. *Creating a nation of learners.* The opening sentence discussing this challenge is, "We must redesign all of our learning systems to align our entire education enterprise with the personal, civic, and workplace needs of the 21st Century" (p. 19). That alignment will "demand that American education transform itself into a seamless system that can produce and support a nation of learners, providing access to educational services for learners as they need them, when they need them, and wherever they need them" (p. 19). They point out that the benchmarks for how to do this might come from any level of education (i.e., preschool to postgraduate) and from any economic sector (i.e., educational, private, government). The concluding statement is, "America needs a more collaborative, cost-effective and better-articulated way of responding to the lifelong learning needs of growing numbers of its citizens" (p. 21).

With respect to financing these changes, the report is straightforward and again challenging in stating,

> higher education's best financial hope rests on helping itself by helping expand the nation's wealth, by providing the knowledgeable and highly skilled workforce that can enhance our productivity, revitalize our communities, and rebuild our sense of "we". . . . We also believe that institutions that defer change until new resources are available will find themselves waiting for a very long time. Financial salvation will begin on the campus, or it will probably not begin at all. (p. 25)

Toward a New Model for Thinking and Planning

The contribution of this report, authored by Banach and Lorenzo (1993) and published by Institute for Future Studies at Macomb Community College in Warren, Michigan, is in describing succinctly the radical changes emerging in America at the end of the 20th century as a backdrop for design and/or redesign of TYIs. These changes in context, generating both challenges and opportunities, are expected to dictate the need for bold new strategies in design and operation of TYIs. The key dimensions of the emerging context resulting from their environmental scanning are as follows:

- *Demographics: Vital Human Statistics*
    - Aging of society
    - The mosaic society (growing multiculturalism)

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  - Population shifts (geographic mobility to urban areas)

- *Economics: The Workplace, the Workforce, and the Exchange of Value*

  - Economic transitions (to producing and delivering customized quality and variety)

  - Workforce transformations (causing disparity between workplace needs and workforce qualifications)

  - Polarization of wealth (the gap between the rich and poor is greater than at any time since records were kept)

- *Political Climate: The Governing Context in which People and Organizations Pursue Their Objectives*

  - Political reflections (increased attention to public opinion)

- *Social Values and Lifestyles*

  - Endangered youth (more children are at-risk)

  - Families and households (increased diversity of family forms)

  - Home base (home is becoming more of a "command center" for life)

  - Individual insulation (more self-centered, individuals isolating themselves)

  - The pampered consumer (expect maximum convenience, high quality, good service, and low price)

- *Advances and Discoveries: Machines, Processes, and Techniques that Enhance or Replace the Human Element*

  - Technology/information explosion (balancing technological development and practical applications)

- *Education: Society's Efforts To Produce an Enlightened Citizenry*

  - Privatization (stimulated by the forces of funding cutbacks, business seeking new ways to get the training they need, news media's highlighting inadequacies in public education, and advent of new educational technology)

- *Public Opinion: Commonly Held Perceptions and Understandings*
  - Public opinion paradox (public attitudes [i.e., seeking simple solutions to complex problems] are in direct contrast to what is needed)

- *Organizational Contexts: How People Organize To Relate, Share, Achieve, and Compete*
  - De-massification (responding to individual needs and wants)
  - Female forces (increased participation of women in the workforce)
  - Greater limits (more things are no longer possible or practical)
  - Organizational faddism (need to separate fads from foundations for progress)
  - Looking for leaders (fewer leaders seem to be available and the rewards are diminishing)

- *World Affairs: Interactions of Groups and Nations that Affect the Marketplace or Political Climate*
  - Globalization (resulting in new coalitions, economic entities, political alliances, and standards) (pp. 2-3)

In the context of these changes, Banach and Lorenzo (1993) recommend the following changes in the planning (design) process:

- The planning model needs to emphasize process over product.
- Organizations must develop a clear sense of purpose by understanding their relationship to the larger society.

- Organizations must devote greater effort to measuring their effectiveness and improving quality.

- Employee attitude must be monitored systematically and objectively.

- To more accurately determine the external forces triggering the need for change, organizations must strengthen their ability to scan the "local" and "global" environments.

- The environmental scan must be designed to reflect the expectations of multiple and diverse constituencies.

- The strategic planning process must include a means to monitor and influence public opinion.

- For mature organizations, the planning process must provide a basis for continuous improvement and continuous adaptability. (pp. 32-34)

Ten Public Policy Issues for Higher Education in 1994

At the time NDTYI was initiated, the Association of Governing Boards of Universities and Colleges (1994) published a list of the ten most significant public policy issues in higher education for 1994. The issues were developed by a group of higher education policy experts who gathered together in October 1993. The "front burner" issues, which provide a sense of the challenges facing governing boards, trustees, presidents, and chancellors responsible for higher education systems and campuses, including TYIs, were the following (not listed in priority order):

1. *The Budget Squeeze:* Competition for public funds will become more acute at the local, state, and federal levels, further squeezing funding for higher education.

2. *Oversight and Accountability:* Public agency oversight of institutions will grow, as will demands for greater institutional accountability regarding finances, administration, and academic affairs.

3. *Access, Productivity, and Cost Containment:* State and federal policymakers will intensify their pressure on institutions to increase productivity and provide access at reasonable cost.

4. *Student-Aid Reforms:* New student-aid legislation promises dramatic change. Direct loans, national service, and income-contingent loan repayments are on the way.

5. *Changing Priorities for Research:* Growth in federal funds for university research will slow, and priorities may continue to shift to research supporting economic development.

6. *Race and Diversity:* Institutions will be asked to do more to address societal problems, including issues concerning race and diversity.

7. *The National Health-Care Debate:* Every college and university will be affected by the outcome of the national debate on health-care reform.

8. *Intercollegiate Athletics:* Public scrutiny of intercollegiate athletics will continue amid ongoing controversies about cost containment, gender equity, and the effects of reforms.

9. *Involvement in Public School Reform:* Colleges and universities will be asked to do more to advance school reform.

10. *Faculty Retirement:* Elimination of mandatory retirement in 1994 could affect the finances and faculty demographics of many institutions. (p. 6)

Critical Issues Facing America's Community Colleges

This report, published by The Institute for Future Studies (1994) of Macomb Community College, describes the most important issues facing community colleges in 1994-1995, the time period at which NDTYI was just beginning. Presumably, a new design for the TYI will have to effectively deal with these issues if it is to be successful. The issues described in the report are as follows:

- *Fundamental Uncertainty:* Everything is changing, what we normally do might not work, and uncertainty of roles—all of these suggest the need for fundamental change.

- *Different Directions:* Colleges will become more dissimilar, mirroring more heterogeneous communities; what leads to progress will vary by campus; turbulence of change will lead to needed changes in direction; need for continuous experimentation and innovation; no common guideposts among colleges; and variation in focus on near and far geographic horizon.

- *Resource Paradox:* Colleges will have greater limits and broader possibilities at the same time, realization of difference between what society wants and can afford, need models of entrepreneurship and flexibility, being willing to focus, improvement by substitution, and comprehensiveness through collaboration among institutions.
- *Two-Tier Trauma:* Shortage of well-qualified professional staff, many faculty who should retire but do not, and implementing two-tier systems of rewards and responsibilities—full and part-time, old and new employees.
- *Financial Futures:* Demise of accessibility and affordability; little growth in state and federal funds; lack of willingness to increase local taxes for college operations; funding increases will be for very specific purposes; current funding models incapable of sustaining the system as it is; and new funding strategies will include workforce development initiatives funded by public and private sources, community development initiatives funded by communities, special purpose local revenue efforts, philanthropy and planned giving, grants, and entrepreneurship.
- *Mission Mania:* Expansion beyond capabilities; loss of public confidence; requests to be a partner by everyone in everything; fuzz college agendas; dilemma of increasing expectations and declining resources; need to mobilize various interest groups into a coherent whole; and balancing mission, marketplace, and college core values.
- *Strategic Stalemate:* Educational institutions are not sure what business wants, business is not sure what it wants from educational institutions, debate over whether or not educational institutions should emphasize general or specific skills, mismatch of workforce needs and existing educational programming, need to emphasize relationships between business and industry which match institutional strengths, future partnerships likely to be narrower and shorter-term, more synergistically and quickly developed curriculum projects, and need for educational institutions to make informed market choices.

- *Documenting Results:* Documentation of results will move from option to requirement, more assessment of perception of clients and public-at-large, benchmarks will be in the direction of world-class standards, need for educational institutions to become proactive advocates for evaluation of results as means to strengthen programs and extend base of support, need to use new information technologies to assist in assessment process, and assessment will be 3 × 4 matrix—measuring mission and organizational effectiveness and student outcomes and use of the assessment by academic decisionmakers, public policy officials, taxpayers, and students.

- *Technology Avoidance:* Faculty members are not enthusiastic about new technology; private companies are positioning to use technology to revolutionize the educational process in terms such as any time, any place, and any content; educational institutions are mostly using technology to do the same things faster rather that change what is being done; and resisting technology is holding back the inevitable.

- *Research Readiness:* Community college faculty are not producing or using research, real opportunity for them to make contribution on the teaching and learning process for postsecondary students, and way for faculty to renew themselves and advance the profession.

- *The Shadow College:* Typically this includes partnerships in community economic development such as short-term job training, contract education, and workforce development; often has entrepreneurial flair and quick response; some see as harmful to traditional mission of TYI and others see as best hope for future; should be strategy to evaluate; and progressive institutions are moving this form of operation to forefront of their educational efforts.

- *Breaking Boundaries:* Community colleges traditionally have a geographic focus; challenge to geographic boundary is coming from specialization, customization, globalization, and technology; and the traditional gentleperson's agreement between the community college and its local geographic community will need to be renegotiated.

- *The Public Trust:* Public interest and trust of the community college is slipping; public support usually results from a public perception of worthy purpose and quality performance; public is now assessing community colleges on the basis of cost, quality, and access; need for colleges to be clear about purposes, continuously improve performance, and focus on issues of public concern that match the institutions' capacity.

- *Being Honest:* Need for community colleges to reexamine their core mission to see if it needs to be changed (e.g., what are implications of really serving a community, really being student sensitive, really being accessible, really being up-to-date), need forums to deal with previous untouchable topics, and need to be honest about what colleges should not keep doing. (pp. 1-28)

A Framework for Fundamental Change in the Community College

This report was authored by Lorenzo and LeCroy (1994) and published by The Institute for Future Studies at Macomb Community College. The subtitle to the report is "Creating a Culture of Responsiveness." Lorenzo and LeCroy's operating assumption was that community colleges need to change in fundamental ways, meeting new needs more precisely and working from a more cohesive structure. The key assumptions they set forth to undergird their framework for fundamental change were as follows:

- The core need is for fundamental, rather than incremental, change.

- Times of fundamental change are characterized by a lack of fit between the problems pressing in on society and the solutions that its institutions have available to them.

- Amid such societal disequilibrium, new skills, talents, and language are required to establish better fit and a more coherent path.

- The overall goal for the community college is to create a culture of responsiveness that more clearly relates its comprehensive mission to these new societal circumstances. (p. 1)

Ten elements make up the proposed framework for change:

1. *Think Holistically:* With holistic thinking comes attention to connectedness, interdependence, systems, patterns of change, symbiotic networks, horizontal decisionmaking structures, seamless web of service, and turning competitors into collaborators. They suggest that college priorities be set through "an outside-in thinking process: (1) what's best for the community; (2) what's best for the college; (3) what's best for the unit; (4) what's best for the staff" (p. 10).

2. *Streamline Governance:* The challenge here was to pick up the pace of decisionmaking to better fit the needs of the Information Age. The mechanisms for increasing speed included flattening organizations, using information technologies, and establishing crossfunctional teams.

3. *Redefine Roles and Redesign Work:* The suggested approaches to redefining roles and redesigning work include (1) increased specialization (rather than expecting a person to do everything well) along four lines—designing curriculum, presenting information, managing the learning process, and assessing learning outcomes; (2) increased adaptability in operating structures and professional roles over time; (3) increased crossfunctionality across disciplines and functional areas; and (4) increased use of part-time faculty to increased speed of change.

4. *Diversify Funding:* The suggestion is for colleges to move to an offense position because "doing more with less" is not a viable long-term financial strategy. The new language of funding includes rigorous fiscal discipline, working smarter and leaner, outsourcing and privatization, entrepreneurial options, differential pricing, market niches, grantspersonship, fund development campaigns, collaboration, and long-term contracts.

5. *Provide More Options:* Here attention is directed toward providing more choice in terms of content, format, time, method, and setting. Practices likely to become more mainstream include home study, open entry/open exit, satellite learning centers, credit for experience, child care provisions, and customized offerings. The profile of colleges may take different directions as markets respond to these choices in different ways.

6. *Assure Relevancy:* Note was made that attention to relevancy may be the most painful change for community colleges. Being relevant will involve honesty and introspection; constant dialogue with customers and competitors; providing strong general and technical skills; questioning the value of associate degrees, the academic calendar, and faculty-search process; and real commitments to multicultural goals and lifelong learning.

7. *Apply Technology:* Technology is seen as a powerful "boundary breaker" for community colleges allowing the college to feasibly increase choices and horizons. Major hurdles include cost, training, and enhanced use for both administration and instruction.

8. *Cultivate New Relationships:* The centerpiece in building new relationships will be moving from a focus on "teaching" to one of "learning" and from "faculty-centered" to "student-centered." The commitment to cultivating new patterns of relationships, both internal and external, will be tested in the results of moving from line decision making to team decision making; from adversary to partner between management and labor; from faculty as information provider to consultant and coach; from autonomy and independence in services to avoiding duplication, waste, and gaps in services; from holding on to sharing power and resources across institutional borders; and from reluctance to enthusiasm in building relationships with K-12 public schools.

9. *Changing Success Factors:* Attention must shift from measuring inputs to measuring learning outcomes for all dimensions of the colleges' activities, traditional and new and emerging.

10. *Facilitating Continuous Learning:* The suggestion is for the college to demonstrate a continuing capacity to update and become stronger. The aim is to be a "learning organization" with constant and significant attention to professional development for all college staff. (pp. 10-21)

Starving the Solution

In this report published by the Miami-Dade Community College Foundation, McCabe (1995) addresses four major issues facing community colleges: "the demand for more highly educated workers is increasing and will continue to increase; more undereducated and underskilled workers are attempting to enter the workforce; there is an ever expanding dependent underclass; and in most cases community colleges are receiving less financial support" (p. 1). By not providing adequate resources to community colleges, legislators are "starving the most promising solution" to resolving the first three issues noted above. McCabe goes on to document the positive effects of community colleges on worker training, addressing the needs of the undereducated and underskilled, and developing economic independence. He concludes that community colleges are "undervalued, under-appreciated, and underfunded" (p. 10). Major symptoms of the underfunding include "a rapid increase in sections taught by part-time faculty, a decrease in support personnel, inadequate funds to stay current with technical equipment and library materials, and non-competitive salaries" (p. 11).

National Assessment of Vocational Education

The National Assessment of Vocational Education was mandated by the U.S. Congress as a part of the 1990 Perkins Act. The Office of Educational Research and Improvement in the U.S. Department of Education was assigned the task of conducting the assessment. Its purpose was to examine the outcomes of the 1990 Perkins Act and make recommendations concerning future reauthorization. A major component of the assessment was the examination of postsecondary vocational education, which largely occurs and is a significant purpose of TYIs.

On examining participation in postsecondary vocational education, the assessment resulted in the following conclusions (Boesel, Hudson, Deich, and Masten, 1994):

- Over two-thirds of postsecondary enrollments in sub-baccalaureate institutions are by students in vocational programs.
- Even with rising costs and the decreasing size of the traditional college-age student cohort, enrollments in postsecondary vocational education continue to increase (at about the same rate as for postsecondary academic programs).
- Postsecondary vocational programs serve a wider diversity of students in terms of ethnicity, disability, and disadvantages than other postsecondary programs.
- Enrollments in postsecondary vocational programs are increasing in occupational areas of job growth—thereby responding to the labor market.

- There is high demand for short-term programs reflected in proprietary institution enrollments, suggesting a conflicting need for longer education and immediate income (noted as one of the "greatest challenges of postsecondary vocational education" (p. 55).

- Postsecondary vocational students have low completion rates (similar to academic programs) (26-65% over a period of 2.5 years for full-time students), even though there are economic gains with program completion. From trend data, the conclusion is that students in sub-baccalaureate programs are leaving school without credentials at an increasing rate.

With these conclusions in mind, the assessment makes the following recommendations for reauthorization of the Perkins Act to improve postsecondary vocational education:

> - . . . more closely target funds on institutions with large and growing concentrations of special population students (as a way to better serve all special populations of students).
>
> - . . . funds should be targeted within institutions on programs in areas with growing job demand (as a way to increase vocational education's responsiveness and students' employment prospects).
>
> - . . . emphasize the use of funds to substantially upgrade the development of vocational students' conceptual skills, especially at the secondary level (as a way to better prepare students for postsecondary education). (Boesel et al., 1994, pp. 54-55)

Important themes in the assessment's summary report (Boesel & McFarland, 1994) as it relates to postsecondary vocational education include (1) closer linkage of secondary and postsecondary programs (Tech Prep); (2) better integration of occupational and academic programs; (3) more accessible and responsive to a wide range of learners, particularly those with special needs; and (4) increased use of occupational and industrial standards as benchmarks for program quality and ensuring being up-to-date.

Transforming Higher Education

Nearing the completion of NDTYI, the Society for College and University Planning published the report entitled *Transforming Higher Education: A Vision for Learning in the 21st Century* (Dolence & Norris, 1995). The authors call for major transformation in higher education as society changes paradigms from the industrial age to the information age. In their vision, higher education must realign with the needs of its stakeholders, clients, customers, and beneficiaries. The transformation of higher education is addressed in four phases: (1) realign, (2) redesign, (3) redefine, and (4) re-engineer. Key concepts in the transformation from industrial age to information age include changing from . . .

- Teaching franchise to learning franchise.
- Provider-driven, set time for learning to individualized learning.
- Information infrastructure as support system to information infrastructure as the fundamental instrument of transformation.
- Individual technologies to technology synergies.
- Time out for education to just-in-time learning.
- Continuing education to perpetual learning.
- Separate learning systems to fused learning systems.
- Traditional courses, degrees, and academic calendars to unbundled learning experiences based on learner needs.
- Teaching and certification of mastery are combined, with learning and certification of mastery as related, yet separable issues.
- Front-end, lump-sum payment based on length of academic process to point-of-access payment for exchange of intellectual property based on value added.
- Collections of fragmented, narrow, and proprietary systems to seamless, integrated, comprehensive, and open systems.
- Bureaucratic systems to self-forming, self-correcting systems.
- Rigid, predesigned processes to families of transactions customized to the needs of learners, faculty, and staff.
- Technology push to learning vision pull. (p. 4)

In making the transformation, higher education will need to realign with the changing nature of information, knowledge, and scholarship; needs of individual learners; and the changing nature of work and learning. Redesigning higher education to integrate these new concepts will include changes such as creating barrier-free, perpetual learning; offering high-quality, flexible enabling services; reconceptualizing around essential outcomes; and pushing out organizational boundaries using technology. Redefining roles in higher education will include faculty playing a variety of roles: "researcher, synthesizer, mentor, evaluator and certifier of mastery, architect, and navigator" (p. 61). The transformation will involve re-engineering around performance measures such as the following:

- Access to global information networks
- Flexible schedule
- Lifelong learning support
- Personalized learning system available
- Simulation capability available (p. 77)

The authors of this report are clear in their admonition about the choice available to higher education institutions: "Accept the risks of pursuing the transformation of higher education to an Information Age model, or the certainty of stagnation and decline as Industrial Age colleges and universities fall further and further from favor" (p. 94).

The Community College Story

A well-known leader in the field of community colleges, George B. Vaughan (1995), was commissioned by the American Community College Association to prepare this concise description of the community college movement in the United States. Since the community colleges represent the most numerous form of public, TYIs, the report was included in developing design criteria for NDTYI. Vaughan reports that there were 1,472 public community colleges, technical colleges, two-year branch colleges, and independent junior colleges in the United States in 1990, and they enrolled more than 5.7 million students in credit courses. This number amounts to about 38% of all students enrolled in community colleges and four-year institutions (p. 10).

Vaughan summarizes the mission of community colleges as a series of precepts or basic commitments:

- A commitment to serving all segments of society through an open-access admissions policy that offers equal and fair treatment to all students;
- A commitment to a comprehensive educational program;
- A commitment to serving its community as a community-based institution of higher education;
- A commitment to teaching; and
- A commitment to lifelong learning. (p. 3)

The community college's mission is usually achieved through the following traditional categories of programs, activities, and services:

- *College Transfer Programs:* Preparation for transfer to a four-year, baccalaureate institution.
- *Occupational-Technical Programs:* Preparation to directly enter the world of work.
- *Developmental Education:* Preparation to enter college courses.
- *Community Service:* Continuing education for employment and personal reasons.
- *Support Services:* Services to ensure success in college (e.g., libraries, learning resource centers, academic and employment advising, financial aid).

With regard to the description of community college students, Vaughan contrasts traditional four-year institutions with "student-as-citizen" to the community college, where the norm is "citizen-as-student." The citizen-as-student is described as, "concerned with paying taxes, working full-time, supporting a family, paying a mortgage, and with other responsibilities associated with the everyday role of a full-time citizen" (p. 17). The change in role has many implications for student needs in terms of how, when, and by whom courses are taught.

In terms of funding, community colleges are primarily supported by local and state taxes. According to Vaughan, "On average, nationally, community colleges receive approximately 50 percent of their funds from state taxes, 21 percent from local government, 20 percent from tuition and fees, 4 percent from the federal government and 5 percent from other sources" (p. 22).

Summary

In view of the positions, findings, and recommendations of the reports described above and intensive deliberations in the NDTYI Work Group and National Design Group, a set of key changes in the context of higher education was selected for attention in NDTYI:

- *From Industrial Age to Knowledge Age:* The technological focus has moved from the Industrial Age to the Information Age, and now to the Knowledge Age.
- *From National Society to Global Society:* The social and economic horizon has extended from a local and state perspective to a national perspective, and now to an international perspective.
- *From Minority/Majority to Diversity:* The cultural lens has shifted from a majority dominance, to minority/majority considerations, and now to the recognition and valuing of cultural diversity.
- *From Waves of Change to Turbulent Change:* The approach to dealing with change has altered from linear thinking to catching and riding waves of change, and now to coping with the "white water" of turbulent change.
- *From Resource Growth to Resource Reduction:* The resource assumptions have converted from growth with added resources, to renewal through resource reallocation, and now to redesigning with resource reduction.
- *From Some Wanting Postsecondary Education to All Wanting Postsecondary Education:* The demand curve has veered from a few wanting postsecondary education to some wanting postsecondary education, and now to all wanting postsecondary education as a means to a good life and a good society.

These are the changes that challenge new designs for the TYI. They form the basis for the design criteria that were used to guide the development of NDTYI.

The Design Criteria

Given the design assumptions and the changing context of the TYI in the United States, the work of the NDTYI Work Group and the National Design Group, in combination and interaction, resulted in a set of design criteria to guide and monitor the next elements in the design process. This section of the report will give an overview of the design criteria followed by a more detailed treatment of each criterion in terms of the questions it suggests for each element in the design process.

Overview of Design Criteria

By way of overview, the criteria for the exemplary design of a 21st century TYI were formulated as follows:

- *Imaginative (responding to a context in which the old ways of operating are no longer working):* Being imaginative means breaking traditional boundaries, moving in different directions for different institutions (e.g., designing to be different depending on the situation), practicing entrepreneurship (e.g., searching, exploring, risking, investing, and incorporating), and growing/improving by substitutions (e.g., shifting resources, new for old). Imagination involves exploration of the possible.

- *Directional (responding to a context where many institutions lack a relevant strategic focus):* The process of mission development as it relates to learners and community, social and economic agenda, becoming part of our social fabric.

- *Responsive (responding to a context of changing customer needs and expectations):* Being attentive to the diversity of learners (e.g., culture, gender, age), access (e.g., in terms of cost, distance, time, learning readiness), lifelong learning, technological change (e.g., technology as subject matter, learning delivery, and change agent), market competitions, change agent role (e.g., proactive, setting the pace), flexibility (e.g., continuous quality improvement approach, a learning community), pace of response, and customer service.

- *Collaborative (responding to a context of no longer being able to get the job done alone):* Being cooperative in terms of curricular integration (e.g., academic/general and vocational/technical/occupational/professional), institutional articulation (e.g., secondary/postsecondary, two-year/four-year), partnerships (e.g., with families, employers, community agencies, other schools/colleges/universities), brokering of services (e.g., linking of needs and services provided by others, taking shared responsibility), and supporting a seamless learning system.

- *Accountable (responding to a context where the value of the institution is being questioned):* Being responsible for learning outcomes, quality assurance to stakeholders, continuous quality improvement, and productivity.

- *Resourced (responding to a context of lack of funds):* Ensuring that there are adequate financial resources to provide the desired characteristic for each element of the design. Being active in increasing resources (e.g., short and long term), cost containment, increasing efficiency, recognizing what is done as a matter of choice (e.g., higher education is discretionary), equity, and fairness in who pays and receives benefits.

On Being Attentive to the Design Criteria

The following section of the report focuses more in-depth on each of the design criteria in terms of what the design criteria mean in action (e.g., on being imaginative, on being directional). For each of the design criteria, attention is given to a brief description of the concept underlying the criterion and then raising questions relating the criterion to each of the elements in the design process (e.g., signature, outcomes, process, organization).

On Being Imaginative

Imagination involves exploration of the possible. It questions the beliefs and myths that underlie current activities and organizations. Imagination creates metaphors that help people visualize productive futures. And, it facilitates the design of models of systems and behaviors that give creative shape to the future. Being imaginative raises the following questions for each design element:

Signature

- Does the signature express ideas or beliefs that are likely to capture the interest of stakeholders?

Outcomes

- Are outcomes integrated across the entire range of the institutional mission (e.g., academic, personal, and social)?

Process

- Is there a dynamic teaching–learning model that provides alternative experiences for students?

Organization

- Does the design provide the systems and structures necessary for a learning organization?

Partnerships

- Does the design make use of community resources in such a way as to ensure the future vitality of the organization?

Staff and Staff Development

- Does the model and its supporting systems provide opportunities for meaningful roles and the creative input of staff?

Environment

- Does the design provide for continued use of new technology—both in support of the learning and as an object of instruction?
- Are there explicit links between the design and the surrounding environment so as to foster mutual adaptation?

Finance

- Does the design include plans for continued resource inputs commensurate with learning outcomes?

Celebration

- Is there a provision for symbolism and celebration in the design?
- How is being imaginative continuously celebrated?

On Being Directional

The metaphor for direction of the TYI is a camera with the ability to change the lenses of its organizational procedures to focus the resources of the institution and diffuse information to make impressions—wide angle to get a broader view of the context and environment, telescope for the future or to view other organizations, snapshot to take stock, and video to function in an ongoing environment. Each member of the learning community should have the same camera capacity. Being directive raises the following questions for each of the design elements:

Signature

- Does the signature direct attention and energies of the stakeholders in support of the mission?

Outcomes

- Do the outcomes clearly suggest how they are to be attained and how they lead to opportunity?

Process

- Does the learning process provide multiple options directed by the student?

Organization

- Is the organizational structure flexible and responsive?
- Does the way of organizing serve to link and connect the student to the institution and to the community?
- Does the direction come from shared decisionmaking with faculty, students, and other members of the community?

Partnerships

- Do the partnerships serve to move the institution in a consistent direction?

Staff and Staff Development

- Is the direction seen in staff actions as facilitators, conveners, instructors, tutors, and advisors?
- What is the role of the institution's staff in setting institutional direction?

Environment

- Does technology facilitate the connections, linkages, and direction of the institution?
- Is the direction evident in the learning places?

Finance

- Is the design an investment returned through employability?
- Does the learning experience lead to economic viability-employment?

Celebration

- Is celebration a means to gather, to recognize, and to provide the dynamic for future directions?
- Does the direction of an institution create an environment of hospitality and being welcome?

On Being Responsive

The amount of information is doubling currently at about a rate of every 18-24 months. By the year 2010, that rate may be every three to five days (Noam, 1995). With extraordinary growth in information, institutions of higher education need to be able to respond quickly. How does an institution of higher education position itself to be responsive in the 21st century, moving from the Information Age into the Knowledge Age? Being responsive raises the following questions for each element in the design process:

Signature

- Is the learning signature and mission "timeless"?

Outcomes

- Is the institution responsive to the changing and diverse student body?
- Will the face of employment change in the 21st century, and how will it affect the types of outcomes for which employers and students are looking?
- Is the institution responsive to curiosity?

Process

- How will technology be used in the learning process?
- How do institutions of higher education respond to the increasing diversity of students and learning styles?

Organization

- Is the organization going to be proactive or reactive in its response to changes? Does a loosely coupled system allow for more responsiveness?
- What is the role of accreditation agencies in ensuring responsiveness?

Partnerships

- Will the institution be open to new partnerships in the 21st century?
- Is the institution responsive to the public?

Staff and Staff Development

- Is the staff creative, flexible, and excited about change?
- What is the structure to support the staff?

Environment

- How do institutions of higher education keep up with quickly changing and advancing technologies?
- Is the institution modeling openness, creativeness, and characteristics of responsiveness?

Finance

- How do institutions of higher education contain costs, yet remain responsive to future projections and technologies?

Celebration

- Are celebrations reflective of change in the 21st century?
- Are the celebrations inclusive of all students?
- Are there celebrations for student retention as well as completion?
- What are the incentives for staff to be highly responsive?

On Being Collaborative

Collaboration is a dynamic, mutually beneficial, and well-defined relationship entered into by two or more individuals or organizations to achieve common goals. The relationship includes a commitment to a definition of mutual relationships and goals, a jointly developed structure and shared responsibility, mutual authority and accountability for success, and sharing of resources and rewards. Collaboration results in easier, faster, and more coherent access to services and benefits and in greater effects on systems. Working together is not a substitute for adequate resources, although the synergistic efforts of the collaborating partners often result in creative ways to overcome obstacles. Being collaborative raises the following questions about each element of the design process:

Signature

- Does the signature grow out of shared and understood goals?
- Does the signature convey a spirit of collaboration?

Outcomes

- Do the outcomes reflect the ideas, knowledge, and judgment of collaborating partners?
- Are the outcomes clearly understood and supported by the collaborators?

Process

- Is the process supportive of collaborative goals and outcomes?
- Does the process model and foster ongoing collaborative work?

Organization

- Does the organization support collaborative efforts?

Partnerships

- Do existing partnerships encourage the formation of new collaborative partners?

Staff and Staff Development

- Are staff provided with training in working collaboratively?
- Do the staff utilize and model good, collaborative practice?

Environment

- Does the technology support and enhance collaborative efforts?
- Is the environment conducive to collaboration?

Finance

- Are the time and money costs of collaboration understood and accounted for?

Celebration

- Do celebrations reflect shared as well as differing interests?
- Do celebrations recognize and reward collaboration?

On Being Accountable

Accountability involves meeting responsibilities and includes nuances that range from the explicit, but usually quite narrow, demands for specific accomplishments of goals or objectives as might be expressed in a planning document or contract to the implicit, diffuse, and usually unarticulated expectations that have their foundations in cultural traditions and mores that truly determine parameters for institutions and individuals. A metaphor that reflects the range of meanings for accountability may then be that of the iceberg with a tip visible on the surface that ostensibly can be approached in a straightforward manner, and a great hulk of the hidden, treacherous mass underlying the seemingly benign portion. Many a ship has been wrecked because it has not paid attention to or has misjudged the degree of danger lurking beneath the waves. Likewise, being accountable demands attention not only to explicit, but also to implicit expectations. Being accountable raises the following questions for each element of the design process:

Signature

- How do images or symbols used to portray the nature and purpose of the organization communicate the implicit, as well as the explicit, commitments?
- What can be done to assure that these symbols embody the values that are espoused?

Outcomes

- What outcomes are recognized, valued, and celebrated?
- Are all stakeholders considered equally important when allocating resources toward achievement of outcomes?

Process

- Does the learning process incorporate means by which the full range of accountabilities can be addressed?

- Are the processes that are in place for all participants, regardless of their learner roles, congruent with the aims and values of the institution—taking into account its status as a public or private entity?

Organization

- What are the parameters for the institution?
- Do the parameters encompass the notion of "community"?
- Are the parameters permeable?

Partnerships

- How do partnerships evolve?
- Are all the criteria used in selecting partners made explicit?
- What commitments are made to partners (e.g., what determines the duration and scope of a partnership)?
- Who decides when a partnership should be initiated or dissolved?
- What is the balance of power within the arrangement?

Staff and Staff Development

- What messages do staff receive about accountability?
- Does the institution provide opportunities for staff to contribute their ideas and pursue their own interpretations of accountability?
- Are all staff "accountable" to each other as well as to the mission of the institution?
- Are processes in place that cause power and authority to be shared throughout the organization?
- Are staff selected in a manner that reflects accountability in the broad sense?

Environment

- Is technology used appropriately as a means, rather than as an end?
- Are decisions concerning technology made in a manner that takes into consideration the ends and purposes of the institution?
- Are plans for the use of technology made for a relatively long-term basis, and are support mechanisms available?
- Are persons learning to use technology provided with the necessary time and training?
- Are the limitations of technology discussed?

- Are alternative technologies made available that accommodate the various learning and thinking styles of the users?
- Is the environment structured appropriately for maximum accommodation of learners and for learners who are in the roles of facilitating the learning of others?
- What concomitant messages pervade the environment?
- Would the environment meet the standards of the most user-friendly setting in the community?

Finance

- Does the institution use its resources wisely and in the most cost-effective manner?
- Are all persons involved accountable for resources in the same way and to the same degree?
- How are resources allocated?

Celebration

- What events, achievements, or conditions warrant a celebration?
- Are contributions of all participants celebrated?
- What messages are conveyed by the celebrations?

On Being Resourced

Being resourced means ensuring that there are adequate financial resources to provide the desired characteristic for each element of the design of a TYI. It means that lack of funding is never the reason for not doing what is in the best interest of providing a quality learning experience. Financial resources are soon converted into the people, learning materials, equipment, and settings needed to create the desired learning experience. Resourcing has short- and long-term considerations and a revenue and cost side to the ledger. Being responsive demands a balance of prudence and risk taking, making the best of what is in place and having an entrepreneurial spirit to develop new ventures, making wise use and the best case for existing financial sources, continually seeking new sources, honing the efficiency of present systems and ways of doing business, and asking tough questions regarding entirely new approaches. Being resourced raises the following questions about each element of the design process:

Signature

- What level of resources is needed to deliver on the promise of the institutional signature?

Outcomes

- How can the outcomes be translated into added economic value?

Process

- How can the learning process be kept both most effective and efficient?

Organization

- How can the institution be organized to make the best use of resources on the campus and in the community?

Partnerships

- What partnerships will ensure an adequate flow of resources?

Staff and Staff Development

- How might staffing be approached to make best use of resources and create additional resources for the future?

Environment

- What new innovations and creative solutions to the learning environment would result in releasing resources for other uses or making multiple use of existing community resources?

Finance

- What level of resources would be needed to create conditions where the expected response to a resource request to improve the learning experience was "yes"?

Celebration

- How does an institution celebrate efficiency without making it the overriding concern?

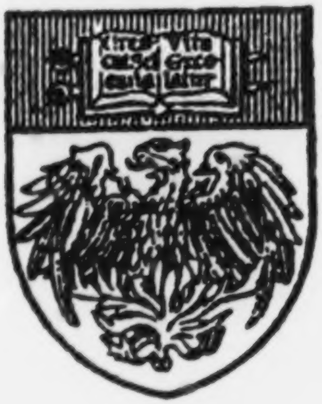
Summary

Development of an appropriate set of design criteria for NDTYI was a significant element in the design process. These criteria guided the response to design specifications and the selection or development of exemplary new designs for the remaining elements of the design process. The resulting design criteria are grounded in a close examination of the context of TYIs in the United States—their problems, assets, opportunities, and aspirations. The selected criteria are that new designs be imaginative, directional, responsive, collaborative, accountable, and resourced. In the view of the NDTYI staff, if new institutional designs are responsive to these criteria in all of the criteria's dimensionality, the resulting institutions will have good assurance of being successful (perceived as doing a good job), valued (perceived as doing a job very worth doing), and used (perceived as a good investment by individuals and community).

CHAPTER THREE:
LEARNING SIGNATURE[*]

Signature communicates our unique identity. Personal signatures are used when we take ownership and make promises. Institutional signatures come in the form of logos, seals, shields, and mascots. Signatures have been visible on the educational landscape since the Middle Ages (Barnard & Shepard, 1929). The seals associated with the ancient European colleges captured an identity that was rooted in the histories of these institutions (Lockmiller, 1969). We see the same pattern in the United States where institutional shields are used as symbols that connect modern institutions with their European past. The shield of the University of Chicago, shown in Figure 3, is but one of many examples of these academic signatures.

Figure 3
The Shield of the University of Chicago



Those who know the history of the University of Chicago will be quick to point out that the Latin inscription, "Cres-Cat. Sci Entia Vita Exco-Latur," can be loosely translated as "science is the escalator to life" and that the true University signature is that of the Maroons—the fabled "Monsters of the Midway" of athletic fame.

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[*] This section was written by George Copa with some assistance from William Ammentorp regarding related literature.

In countless examples like that of the University of Chicago, we see the tension between a historical signature and the popular imagery that inspires the loyalty of students and alumni (Lee, 1992). In this tension, we see the signature's essence—an attempt to symbolically visualize an institution's unique identity. In its best form, the signature promotes identification with the aims, history, and culture of the institution. Signature is a powerful shorthand way to represent the college to its staff, students, and the public.

Signatures are not limited to seals and shields. They can also be bound up with the physical environment of the college. Location, architecture, and the built environment constitute anchors for perceptions of individuals and groups. The environment has durable connotations for individuals who have lived and/or worked in the institution (Thelin & Yankovich, 1987). The sum of their experiences is tied to settings, buildings, and rooms in ways that prompt instant recall of that aspect of signature. Much of the built environment has been shaped by forms taken from ancient designs. It is not uncommon to find Grecian temples on many campuses; what is not so obvious is that designs of this sort bring a large repertory of rituals and behaviors with them, which may or may not be appropriate for the future (Williams, 1985).

In the contemporary college, signature is increasingly associated with marketing and institutional development efforts. Signature is the public *face* of the college—a means of communication with the public. According to Topor (1986), "The collective image of your institution, or global institutional image, is the total of many audience members' perceptions. This global image should contain some recurring components, the key ideas you want to communicate to each target audience" (p. 5). In a sense, this view of signature is in line with corporate images and the logos that anchor commercial marketing.

Educational institutions have many interrelated dimensions to their identity. They are, to be sure, located in physical space; they worry about marketing, and they have no end of visual images and rituals. These attributes of signature are the tangibles that speak of the underlying identity of the institution. And, it is the identity that is expressed eloquently by effective signatures. They empower the organization to realize its potential; as Gareth Morgan (1986) has stated, "The images or metaphors through which we read organizational situations help us to describe the way organizations are, and offer clear ideas and options as to how they could be" (p. 331).

Here, the key word is metaphor—the shorthand expression that makes it possible for all members of the organization to understand history, present action, and future possibilities (Sackmann, 1989). Organizational metaphors gain their usefulness to the extent that they incorporate the stories or myths that people use to tell others about the history of the institution (Westerlund & Sjostrand, 1979). Finally, myths and metaphors are translated into models, which depict the flow of events at the core of the organization (deThomasis, Ammentorp, & Fox, 1991).

This section is organized into the following major sections: (1) an introduction that addresses the purpose of the learning signature and the process used to develop design specifications and new designs for learning signature in NDTYI; (2) a section describing the connection of learning signature to the design criteria presented in the section on learning context; (3) a section presenting the design specifications for an effective learning signature; (4) a section describing the learning signature themes developed by the National Design Group, the resulting NDTYI learning signature, and exemplary new designs for learning signature selected from existing TYIs; and (5) a summary to the section.

Purpose of the Learning Signature

In NDTYI, the purpose of the learning signature element in the design process is to provide explicit and early focus on the identity of the TYI in its learning context. The learning signature element forces discussion of past identity and how that identity needs to change for future viability of the institution. The learning signature serves as a way to bring coherence and focus to multiple dimensions of an institution's identity, including (1) mission—what activity is the institution about (e.g., key products and services), (2) vision—where does the institution want to go with the activity, (3) values—what gives the institution its meaning, (4) assumptions—what is the institution's context/reality, and (5) major purposes—what are the institution's major functions.

Wheatley and Kellner-Rogers (1996) are particularly insightful on the crucial role that learning signature, as identity, plays in institutional design in a context of need for change and transformation. One of their guiding principles for thinking about how to organize human activities is

> **Life organizes around identity.** Every living thing acts to develop and preserve itself. Identity is the filter that every organism or system uses to make sense of the world. New information, new relationships, changing environment—all are interpreted through a sense of self. This tendency toward self-creation is so strong that it creates a seeming paradox. An organism will change to maintain its identity. (p. 14, bolding is in original)

They go on to describe identity (signature) as the "most compelling organizing energy available" (p. 58). In questioning how to think about organizational identity, they suggest:

> In organizations, as in people, identity has many dimensions. Each illustrates some aspect of who the organization is. Identity includes such dimensions as history, values, actions, core beliefs, competencies, principles, purpose, mission. None of these alone tells who the organization is. Some are statements about who it would like to be. Some are revealing of who it really is. But together they tell the story of self and its sojourn in a world it has created.
>
> Identity is the source of organization. Every organization is an identity in motion, moving through the world, trying to make a difference. Therefore, the most important work we can do at the beginning of an organizing effort is to engage one another in exploring our purpose. We need to explore why we have come together. (p. 58)

These remarks reinforce the need for attention to learning signature very early in the design process. For the learning signature provides a way of bringing coherence and alignment to the rest of the design. Wheatley and Kellner-Rogers (1996) clarify this point:

> We can't resolve organizational incoherence with training programs about values, or with beautiful reports that explain the company's way, or by the charisma of any leader. We can resolve it only with coherence—fundamental integrity about who we are.
>
> With coherence, comes the capacity to create organizations that are both free and effective. They are effective because they support people's abilities to self-organize. They are free because they know who they are. (p. 60)

They conclude with a compelling reason for attention to learning signature as an early and significant design element in NDTYI, "In organizations, clear identity is an unmistakable and certain call" (p. 61).

Process of Developing New Designs for Learning Signature

The process of developing the design specifications (the desired features or characteristics to be effective) for learning signature involved a review of the literature and practice on developing organizational identity and ways to communicate the identity visually. Resulting from this review was a preliminary set of design specifications for the learning signature of TYIs. The preliminary design specifications were reviewed by the NDTYI Work Group and the National Design Group and then brought into final form.

The process used to develop actual new designs for the learning signature involved both the NDTYI Work Group and the National Design Group. The NDTYI Work Group was used to try out a process of developing a learning signature for NDTYI. Based on this experience, the process was revised and used with the National Design Group. The final process was set up in several steps: (1) review and discussion of the purpose of the learning signature (i.e., its relationship to communicating a unique institutional identity); (2) review and discussion of the design specifications for an effective learning signature; (3) development of proposed learning signature for an effective TYI in the 21st century by each National Design Group member; (4) discussion among the National Design Group of their learning signature proposals; (5) based on the proposed signatures and resulting discussion, identifying and prioritizing a set of common themes among the proposed signatures; (6) contracting with a graphic artist to use the proposed signatures and common themes as a basis for developing learning signature options for NDTYI; (7) review of the learning signature options by the National Design Group; and (8) development of a final learning signature by the graphic artist in consultation with the NDTYI staff. Each of these steps will be presented in greater detail later in this section.

In addition to developing a generic signature for the TYI in the United States on entering the 21st century, we also spent a very limited amount of time searching for exemplary learning signatures among TYIs that we knew about. This process resulted in selecting two additional signatures to illustrate the idea and power of learning signature as a part of the NDTYI design process. These signatures are presented later in this section.

Connecting Learning Signature to Previous Elements in the Design Process

If the design process is to produce an effective new design for the TYI, it must be coherent, one design element with another. For the learning signature, the greatest challenge is with the first element of the design process—the learning context. In the previous section, the learning context for the TYI was described in some detail and then attention was turned to the development of a set of design criteria as a way to bring focus and priority to the contextual analysis. As a result, NDTYI decided on six design criteria to guide and monitor the design specifications and new designs for the remaining nine elements of the NDTYI design process. The design criteria are that new designs for TYIs should be imaginative, directional, responsive, collaborative, accountable, and resourced.

The imaginative criterion suggests that the learning signature specifications and designs be willing to break with traditional boundaries for higher education and encourage an entrepreneurial stance in searching for a future identity. The directional design criterion suggests that the institution needs to focus—institutional focus is a very powerful strategy to deal with a turbulent and challenging context. The discussion of the directional criterion implies that the learning signature should point the institution in a direction that may be different from other TYIs as it tunes into its unique learning context and situation—its problems, opportunities, assets, and goals. Being responsive means that the learning signature must communicate attention to people and communities, lifelong commitment, diversity, flexibility, quickness, and top-notch service. The collaborative criterion necessitates that the learning signature cannot be the product of one small group (e.g., the institution's central administration)—rather, it will need to involve and be owned by all of the institution's stakeholders—staff, students, partners, community, and state. Being accountable brings attention to developing a learning signature that communicates an institutional promise that will be taken seriously in terms of quality assurance and continuous quality improvement; effectiveness in terms of the signature will be monitored, publicly disclosed, and acted upon. In turn, being resourced means that there are or will be adequate resources to deliver on the signature's promise—it is naive to become carried away by grandiose ideas in the development of a leaning signature, only to find that the promise is hollow in practice. There is much strategic foresight and energy in designing a learning signature that carefully develops/finds a challenging and yet comfortable institutional identity.

Key Concepts Regarding the Learning Signature

The review of literature and good practice on developing design specifications for effective learning signatures focused on the concepts of organizational identity and image. Napoles (1988), in a book entitled *Corporation Identity Design*, draws a contrast between identity and image as follows:

> Understanding the difference between the concepts of corporate image and corporate identity is the first step toward closing the gap between the two. The corporate image is the way in which a company is perceived by the public—consumers, competitors, suppliers, the government, and the general public. Corporate identity, on the other hand, is a symbol that reflects the way in which the company wants to be perceived. It is the ideal situation, and can be created; whereas image is always earned. (p. 20)

According to Napoles, a healthy corporate image will have the following characteristics:

- *Strong Emotional Response:* Once established it is nurtured and cared for by those inside and outside the organization.
- *Appearance of Power:* Creates feeling of strength and stability, which is wanted by those using the organization's services.
- *Sense of Experience, Confidence, and Tradition:* Has a solid reputation.
- *Slow Process:* Built over time by consistent behavior. (pp. 20-21)

The corporate identity is the visual presentation of the corporate image. Napoles (1988) notes that effective corporate identities have the following common characteristics:

- *Symbolism Tends To Strengthen Simple Associations:* Simplicity is a key characteristic.
- *A Strong Visual Trigger:* Should give a strong and prompt association to the organization.
- *Identity as a Promotional Tool:* Should be more active than passive.
- *The Corporate Identity Must Be Memorable:* Should have two important features: suggestiveness (i.e., comes to mind when needed) and recall (i.e., links back to the organization). (pp. 23-24)

Napoles (1988) claims that a favorable corporate image "is one of the most important assets a business can have" (p. 32). Another author, Schmittel (1984), in a book entitled *Corporate Design International*, presents the following criteria for an effective trademark: "unique, memorable, flexible, strong, and enduring" (p. 110). He notes the three key image words are "high quality, progressiveness, and smartness" (p. 136). Interestingly, one of his basic rules for designing corporate identity is, "A clear identity is not the result of many individuals—and/or of manifold single activities! Uniformity and conformity come into existence through consistency and responsible competence of one decisive (!) central authority" (p. 22).

Napoles (1988) cites the following benefits to developing an effective image:

- *Effects on Organizational Thinking:* Serves as a platform for making decisions about essential questions and stimulates new ideas for advancing the organization.
- *Cream of the Crop:* Helps attract talented staff and gives feeling of ownership.
- *Good Network:* Attracts relationships with suppliers and consumers leading to market advantages by gaining advanced knowledge.
- *Identification of Audience:* The character of the organization can be more accurately communicated to a strategic group of stakeholders.
- *Name Familiarity:* It is easier to introduce new products and services because they are carried by reputation of past experience.
- *Restoration of Public Confidence:* Helps to create and maintain a favorable public view. (pp. 32-35)

Henrion (1990) in his chapter on design coordination and visual identity in the book entitled *Managing the Corporate Image* portrays the benefits as follows: "Increased recognisability, increased memorability, increased employee confidence, greater attraction for potential employees, cost savings through standardization, a stronger presence in the market, more confidence among sources of finance, increased public awareness, and, in short, a more appropriate image" (p. 22).

Symbols are the medium used to communicate an organization's identity—the visualized representation of the signature. Napoles distinguished several different types of symbols, "linguistic, mathematical, scientific, and graphic" (p. 43). Symbols in turn have their power on the subconscious mind and the meaning can be positive or negative. Some symbols are easy to interpret in particular ways and are called "symbolic metaphors" or "archetypes" (Napoles, 1988, pp. 44-45), such as a bolt of lighting for speedy delivery or an oak tree for soundness and stability. A key point in designing an effective signature is being aware of the associations triggered by a symbol. The phenomenon of transfer of meaning from a symbol to an organization is referred to as "sensation transference" (p. 47). The basic symbol categories developed by Napoles are as follows:

- *Typographical:* Uses an organization's name or initials (i.e., logotype uses only company name; seal uses word or group of words inside a container; monogram uses organization's initials).

- *Abstract:* Uses indirect and stylized abstract symbols; will need time and additional information to establish the image; usually associated with large organizations.

- *Descriptive:* Uses organization's products or services directly for communications; works best if focuses on character of organization, rather than picturing actual products or services.

Often these categories of symbols are used in combination. Napoles notes that the determining factor, "should be the ability of the symbol to communicate the company's objectives to its target market" (p. 49).

With respect to the process of designing an identity or signature, Napoles (1988) proposes the following steps:

- *Phase I: Analysis:* Gathering information, defining problems, establishing objectives, and presenting to client.

- *Phase II: Design Exploration:* Developing concise design brief (includes marketing criteria, competitor activity, technical requirements, image direction, durability, flexibility), creativity (includes preliminary sketches, attribute analogy chains, manipulating words, visual research, introducing color), and presentation to client.

- *Phase III: Design Refinement:* Gaining approval of basic design direction, taking a closer look, making refinements, developing mock-ups, and presenting to client.

- *Phase IV: Implementation:* Developing organizational identity manual communicating the specifications for uses of the signature, such as stationery, signage, and advertising; and presenting to client.

An impressive presentation of an organizational identity manual is the 3M Corporation's (n.d.) *The Corporate Identification System*, which presents five basic design elements for the 3M Corporation: (1) corporate symbol, (2) typeface, (3) color, (4) grid system, and (5) signature system. Henrion (1990) proposes a similar set of steps to the signature creation process: "analysis, briefing, concept, development, design guidelines, motivation, and implementation" (p. 16). The "motivation" step is unique and addresses the need to involve staff early on in the development process and communicate widely to gain acceptance and understanding of the signature.

In thinking about the organizational identity, Turner (1990) suggests starting utilizing four different points of view:

1. *What You Do:* The product you make or the service you provide.
2. *Where You Are:* The environment in which you make or sell your product or provide your service (e.g., buildings, showrooms, offices, factories, shops, social clubs).
3. *What You Say About Yourself:* The messages and the medium used to tell about your organization.
4. *How You Act:* How does your organization deal with/behave toward people—internally and externally.

As should now be clear, the signature of an organization is significant to its effectiveness and requires a thoughtful process to develop and implement. The reality is that the signature portrays the organization's strengths, weaknesses, capabilities, and approach to a project (Boemer, 1986).

Key concepts regarding the learning signature for NDTYI, based on the review of literature and practice and the design context described in the previous section, include identity, image, uniqueness, focus, coherence, promise, and ownership. Each of these concepts is important to the lexicon or language of NDTYI:

- *Identity:* The learning signature must bring out the core of the institution, what the institution essentially aspires to be about.
- *Image:* The learning signature must visualize in some symbolic form the institution's identity with high fidelity. The signature should play a significant role in creating an accurate perception of the institution's identity.
- *Uniqueness:* The learning signature needs to capture what is special about a TYI. How is it different from other similar institutions? Much of the answer lies in the learning context or situation surrounding the institution.
- *Focus:* The learning signature must focus the energy of the institution—its staff, students, and community. The signature points the direction toward a feasible and productive niche for the institution.
- *Coherence:* The learning signature provides the "glue" holding the institution together and ensures a fine alignment of institutional components to produce quality, effectiveness, and efficiency.
- *Promise:* The learning signature communicates vividly and boldly what value the institution portends to add. It brings attention to what the institution is prepared to strive for aggressively and consistently and for what it is willing to hold itself accountable.
- *Ownership:* The learning signature must be widely understood and valued by the institution. The signature must inspire allegiance and joint efforts.

Design Specifications for the Learning Signature

Based on the process outlined earlier in this section involving the NDTYI Work Group and National Design Group, the design specifications for an effective learning signature for a TYI are as shown in Exhibit 3.

Exhibit 3
Design Specifications for Learning Signature

- *Aligns with the learning context:* Learning signature pays close attention to design criteria.
- *Confirms a worthy identity for the institution:* Learning signature affirms a morally and intellectually justifiable focus for a higher education institution.
- *Creates an accurate image of the institution:* Learning signature is authentic to the aims, operation, and accountability of the institution; it is real in terms of how the institution goes about its business.
- *Provides a unique character:* Learning signature highlights the specialness of the institution and distinguishes it from other institutions.
- *Gives focus and coherence to all components of the institution:* Learning signature is used to unite all elements of the institution in a common purpose.
- *Communicates powerfully the promise of the institution:* Learning signature is a forceful and energetic symbol of the institution.
- *Develops a common understanding by stakeholders:* Learning signature is easily understood by all groups holding an interest in the institution, including students, staff, and wider community.
- *Enjoys shared ownership by all institutional staff, students, and supporters:* Learning signature is supported by and rallies all key institutional stakeholders.
- *Integrates consistently into the operation of the institution:* Learning signature is woven into and shows through in all elements of the institution's operation.

New Designs for the Learning Signature

In addition to the design specifications for this and each of the remaining elements of the New Designs process, exemplary new designs for TYIs that are responsive to the proposed design specifications and illustrate the specifications in practice will be presented. In some cases, an illustrative new design will be developed as part of NDTYI; in other elements, we will select exemplary new designs from the good practice of institutions with which we are familiar, and for some elements of the design process both strategies will be used—that is, we will develop new designs as part of the project and also select new designs from existing institutions. Learning signature is one of the design elements where both approaches were used.

Developed New Design for Learning Signature

As described above in the section on process, we used both the NDTYI Work Group and National Design Group to assist the project staff in developing an illustrative learning signature for NDTYI. The NDTYI Work Group assisted in developing and pilot-testing the process used with the National Design Group in creating an effective learning signature for the project.

The process used with the National Design Group was to ask them to first consider the design criteria and design specifications for an effective learning signature and then propose a learning signature for a future-oriented, TYI. More specifically, they were asked individually to respond to the question, "What picture, words or phrase, object, person, or music should be used to characterize an effective 21st century TYI?" The National Design Group members each developed a learning signature and presented it to other members of the group and the project staff. The signature proposals included the following:

- A sun rising (or setting) over a body of water with the words, "Benjamin Franklin College."
- A road passing under an archway carrying the inscription, "Learn for Life."
- A set of arms (from people of different ethnicities) reaching upward with the words, "The Most American Institution."
- A circle with the inscription, "Community College Engine," and connecting arrows to community service, building community, collaborative problem solving, higher education transition, human resources and lifelong learning, and economic development—and the phrase, "An Educational Enterprise with No Walls and Many Bridges" or "America's Great Educational Invention for All Seasons."
- A boat with the inscription, "Liferaft for Life."
- A poster with the words, "World of Learning of the People, by the People, and for the People."

- A picture of a web depicting the interrelationship of work, community, and family life—connections defining life.
- A building with the inscription, "The Learning Marketplace and You All Come," and sidebars referring to open 24 hours, just-in-time learning, self-paced courses, distance learning, group study, classroom discussion, community-based learning, workplace learning, learning-style inventory, and computer-assisted learning.

While these learning signatures were being presented to and discussed with other members of the National Design Group, a record was kept of the concepts used to describe and explain the signatures. The National Design Group was then asked to help refine the list, and then the concepts were prioritized by group-voting procedures. The themes identified as most important in the learning signature presentations were as follows:

- Believe in people, unlimited, and boundless
- Learning as key to living
- Lifelong
- Bridge, transition, over barriers, transcend
- Choice, opportunity
- Hope, optimistic
- Energizer, lift, empowered
- Joy
- Connectedness, web, pattern

In subsequent meetings of the National Design Group, these themes were further refined. The following concepts are central to the learning signature for NDTYI:

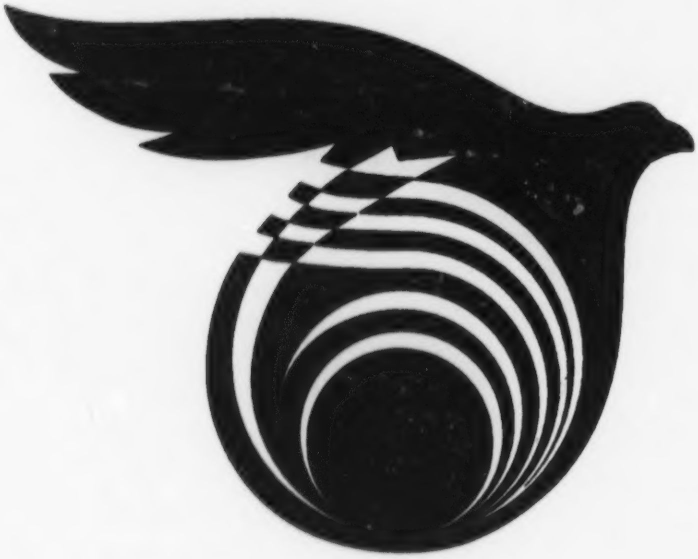
- Connectedness
- Lifelong
- Change/transformation

- Personalized
- Energy

In addition, the project staff wanted to keep a connection between NDTYI and the previous design effort which focused on the comprehensive high school and used a bird as part of its learning signature.

With this information in hand, a graphic artist was contracted to develop the learning signature. After several options were reviewed by the National Design Group at its last meeting, the final developments and selection was left to the NDTYI staff. The learning signature selected for NDTYI is as shown in Figure 4.

Figure 4
The Learning Signature for NDTYI's 21st Century
Two-Year Institution of Higher Education



The bird, with the attributes of both eagle and dove, represents the learner on leaving the TYI. Under its wing, the learner carries the learning experience which has been transformational and synergistic. The learner has changed in some very meaningful ways, and connections have been made, internally and externally, which prepare the person to have a better life and contribute to a better society. At the same time, the learning signature symbolizes the desired identity and image of the TYI—moving forward, transforming as it "dances with change" and responds to a dynamically changing context, and improving through webs of relationships and connections that produce synergies in accomplishment and use of resources.

Selected New Designs for the Learning Signature

As a part of NDTYI relating to the learning signature, the project staff also remained on the outlook for learning signatures that were already in use by TYIs and represented the NDTYI design specifications for a learning signature. The signatures of two institutions were selected for illustration—each representing a different use of symbols.

Fond du Lac Tribal and Community College

This tribal and community college is located in Cloquet, Minnesota. It is one of the Native American Tribal Colleges and was recently constructed to provide higher education opportunities for the Ojibwa.

Fond du Lac Community College is found on land of traditional significance to the Tribe. It is in—and of—the surrounding second-growth forest. Trees removed from the site were preserved and used in rough form as interior posts for the main campus building. The common space of the campus center is open to the outdoors so that one gets a sense of the interdependence of the people and nature.

The site plan for the college is where its learning signature is most apparent. The traditional symbols of the tribe are the bear's paw and the thunderbird. The site and the buildings express this learning signature as shown in Figure 5. Each of the bear's claws will soon be represented by a residential building (see Figure 6), showing that the educational experience and life experience come together at Fond du Lac. Housing units are open to all ages and the college takes care to see that elders of the tribe are in residence to provide a cultural foundation to contemporary learning. In fact, the conscious attempt to integrate traditional and current values is the fundamental goal of the college—to apply what is unique to the Ojibwa culture to the realities faced by students.

Figure 5

The Learning Signature of the Fond du Lac Tribal and Community College in the form of the Campus "Footprint" as a Thunderbird Inside a Bear Paw

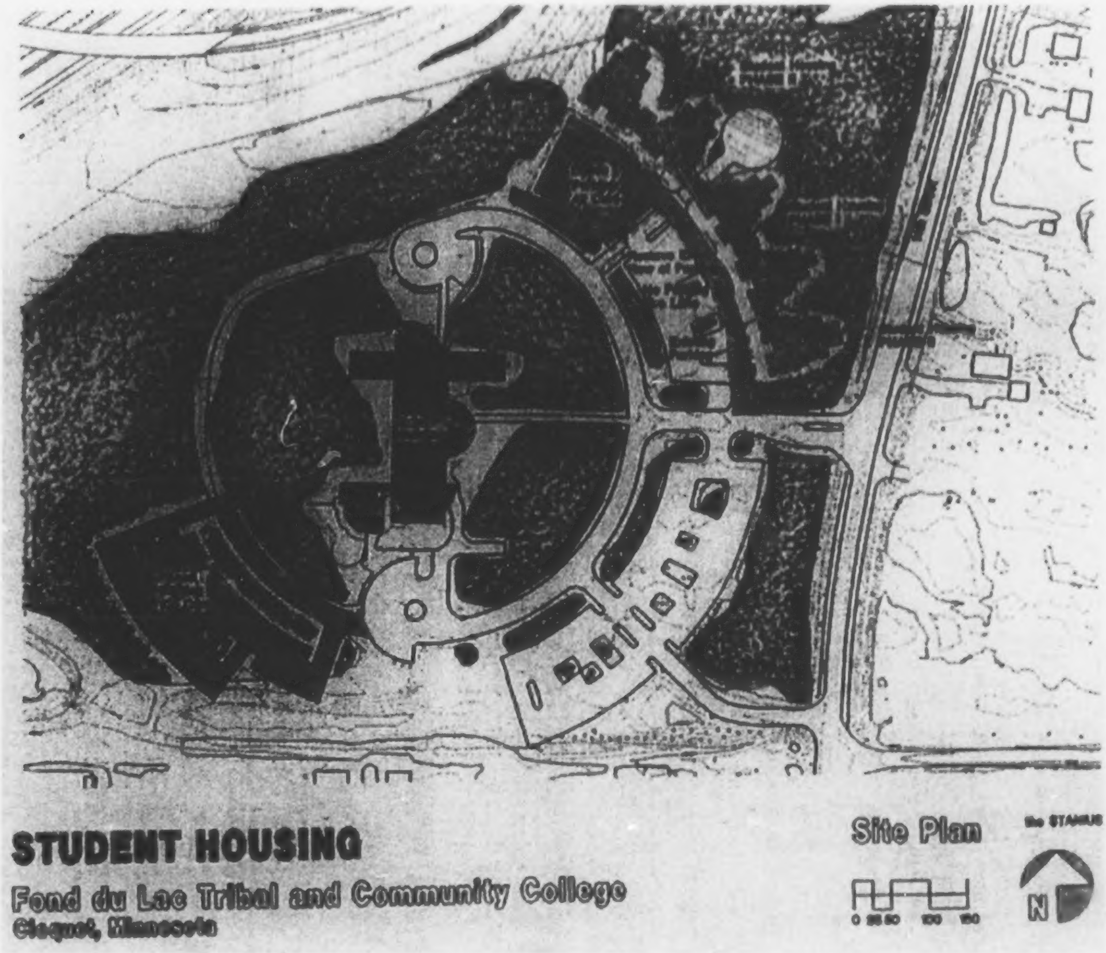

STUDENT HOUSING
Fond du Lac Tribal and Community College
Cloquet, Minnesota
Site Plan
0 25 50 100 150
N

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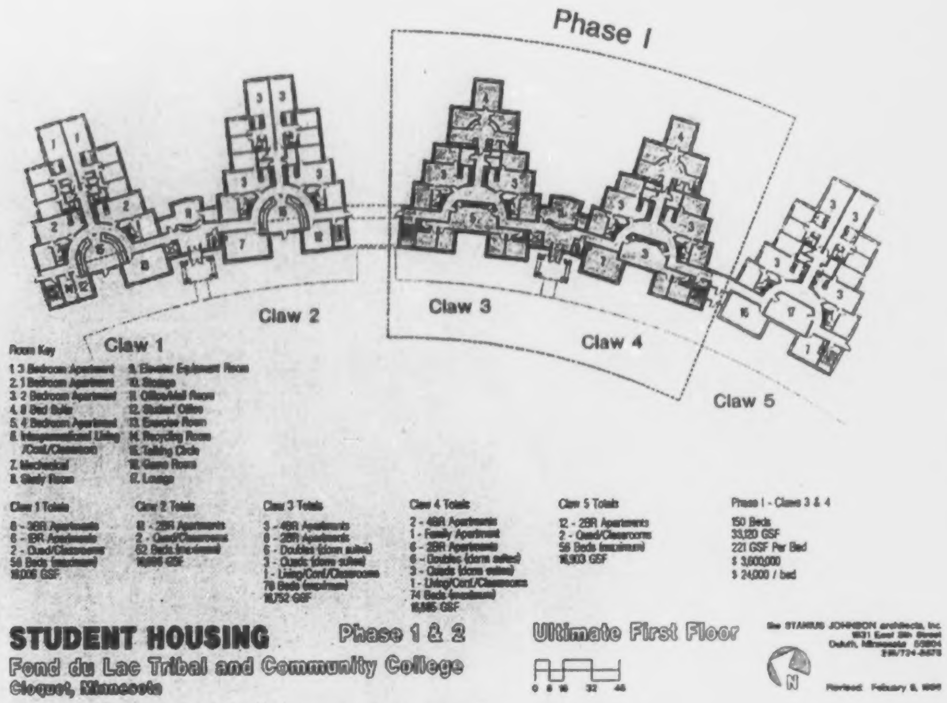
Figure 6
New Residential Buildings Being Proposed in the Form of Claws on the Bear Paw "Footprints" of the Fond du Lac Tribal and Community College Campus


Phase I
Claw 1
Claw 2
Claw 3
Claw 4
Claw 5
Room Key
1. 3 Bedroom Apartment
2. 1 Bedroom Apartment
3. 2 Bedroom Apartment
4. 8 Bed Suite
5. 4 Bedroom Apartment
6. Intergenerational Living /Conf./Classroom
7. Mechanical
8. Study Room
9. Elevator Equipment Room
10. Storage
11. Office/Mail Room
12. Student Office
13. Exercise Room
14. Recycling Room
15. Talking Circle
16. Game Room
17. Lounge
Claw 1 Totals
8 - 3BR Apartments
6 - 1BR Apartments
2 - Quad/Classrooms
56 Beds (maximum)
10,006 GSF
Claw 2 Totals
12 - 2BR Apartments
2 - Quad/Classrooms
52 Beds (maximum)
10,686 GSF
Claw 3 Totals
3 - 4BR Apartments
8 - 2BR Apartments
6 - Doubles (dorm suites)
3 - Quads (dorm suites)
1 - Living/Conf./Classrooms
76 Beds (maximum)
16,752 GSF
Claw 4 Totals
2 - 4BR Apartments
1 - Family Apartment
6 - 2BR Apartments
6 - Doubles (dorm suites)
3 - Quads (dorm suites)
1 - Living/Conf./Classrooms
74 Beds (maximum)
16,565 GSF
Claw 5 Totals
12 - 2BR Apartments
2 - Quad/Classrooms
56 Beds (maximum)
10,303 GSF
Phase I - Claws 3 & 4
150 Beds
33,120 GSF
221 GSF Per Bed
$ 3,600,000
$ 24,000 / bed
STUDENT HOUSING
Phase 1 & 2
Fond du Lac Tribal and Community College
Cloquet, Minnesota
Ultimate First Floor
0 8 16 32 48
N
the STANIUS JOHNSON architects, inc.
Duluth, Minnesota
Revised: February 8, 1996

Kirkwood Community College

Kirkwood Community College is located in Cedar Rapids, Iowa. The college was visited just as NDTYI was coming to a close. The purpose of the visit was to study its use of learning technology. While on the campus, it was very evident that a new learning signature was being implemented for the college. Banners with the learning signature were evident throughout the campus and in its written materials. For example, a huge banner proclaiming the learning signature hung above the entrance to the main student building. The learning signature, as shown in Figure 7, responded in direct ways to many of the design specifications we had set for an effective learning signature.

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Figure 7
Learning Signature for Kirkwood Community College

Summary

The incorporation of a learning signature is about finding/developing institutional identity and then symbolizing it—usually in a visual form. Developing the learning signature for a TYI is one of the most important early steps in the design process. The process requires serious attention to the learning context of the institution and the need for the institution to change or transform, perhaps in some drastic ways. Once set, the learning signature provides the starting point for aligning all other elements in the design process. If it is off-base, it will lead the rest of the design process further off-base.

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Important concepts to be understood and considered in designing a learning signature include identity, image, uniqueness, focus, coherence, promise, and ownership. From a NDTYI perspective, the design specifications for an effective signature are as follows:

- Be responsive to the learning context.
- Be about a worthy identity for the institution.
- Create an accurate image of the institution.
- Give a unique character to the institution.
- Give focus and coherence to all components of the institution.
- Communicate powerfully the promise of the institution.
- Be easily understood by institutional stakeholders.
- Have shared ownership by all institutional staff, students, and supporters.
- Be consistently integrated into the operation of the institution.

In developing a learning signature to be used for the TYI across the United States, NDTYI selected a core identity that emphasized the concepts of transformation and synergy for the institution and its effects on learners.

CHAPTER FOUR:
LEARNING OUTCOMES*

The purpose of this section is to identify the design specifications and new designs for the aims and purposes of two-year institutions of higher education (TYIs) from a learning perspective. The aims and purposes will be set forth in the language of learning outcomes. The new designs for TYIs were expected to result in institutional designs that add value to students, and, thereby, to the communities where they live, to their families, and to the places where they work. Because of the centrality of teaching and learning to the mission of TYIs, the learning outcomes become a very powerful force or keystone in designing the institution and its way of operation. The development of learning outcomes needs to occur institution-by-institution in order to develop the necessary ownership and commitment by key stakeholders and to tailor the outcomes to the context of each institution. The products developed through NDTYI's learning outcomes are the following: (1) a set of design specifications or criteria for guiding and reviewing the development of learning outcomes for a specific institution, and (2) new designs for learning outcomes presented as a set developed as part of the NDTYI project and as a set selected from current practice. The latter are used to illustrate the character of the learning being expected from effective TYIs.

Purpose of Learning Outcomes

Words such as aims, purposes, goals, objectives, standards, and results have been an important part of the history and philosophy of education at all levels. *Learning outcomes* is another such word. The intent of using the term learning outcomes is to refer to the added competence (outcome) developed by a learner through a learning experience. The expected or promised learning outcomes are what the educational institution is contracting for in exchange for resources from the learner, family, community, state, and others. The learning outcomes form the common-sense base for designing, implementing, and assessing the effects of the learning experience. As such, they are central to the design, funding, operation, and accountability of TYIs.

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* The initial draft of the section was developed by Sandra Krebsbach and George Copa. Subsequently, major changes and additions were made by George Copa.

As stated by O'Banion (1995), Executive Director for the League of Innovation in the Community College, "At the moment, most community colleges are struggling to operate within established paradigms that are dying" (p. 19). One of the ways to get out of the "ruts" that TYIs now find themselves in is to focus on rethinking and redefining the learning outcomes that should be the focus of their programs. Then design down from these learning outcomes by ensuring that the learning process, organization, staffing, and environment are in alignment with and take their lead from the learning outcomes. Boggs (1995) reinforces the emphasis on rethinking the whole operation of the TYI from the perspective of student learning in advocating, "We need a new paradigm for community colleges as learning rather than teaching institutions. The mission should be student learning, and we should measure our effectiveness based on student learning outcomes" (p. 25).

As we approach the process of rethinking the TYI, Alfred and Carter (1996a) suggest three possible strategies—(1) treading water, (2) catching up, and (3) market foresight. The latter strategy involves transformation of the institution in anticipation of future changes in the market for education. They note that, "Transformation's new strategy can be captured in three words, entrepreneurship, speed, and a focus on outcomes" (p. 17). In their book entitled *Transforming Higher Education*, Dolence and Norris (1995) also link institutional transformation with a focus on learning outcomes and devote a whole section to "Redesigning to Meet the Needs of the Information Age—Reconceptualizing Around Essential Outcomes" (p. 33).

In summary, there is a basic need to rethink the whole purpose and operation of TYIs with a focus on learning outcomes. In order to get a fresh start at this process, the perspective taken by NDTYI is that institutions must essentially "go outside to get back in" to be of greatest benefit to their stakeholders. The emphasis on going outside the institution and thinking through the changes in life roles and responsibilities on entering the 21st century was made very clear in the prestigious Wingspread Report (Wingspread Group on Higher Education, 1993) entitled *An American Imperative: Higher Expectations for Higher Education.* An important dimension of the imperative dealt with is that, "We must redesign all of our learning systems to align our entire education enterprise with the personal, civic, and workplace needs of the 21st century" (p. 19).

Those who have written about the development of learner outcomes (Spady, n.d.) have identified three different strategies to approach the development task. The different strategies are akin to "generations" of computers, in that each succeeding generation (level) is more sophisticated, powerful, and useful than the previous generation. The first approach is called the "traditional strategy" and is initiated by approaching each separate discipline or occupational field and asking representatives of the discipline or field to develop a set of learning outcomes for their subject matter area. For example, one would approach the mathematics faculty or the business faculty and ask them to develop a set of learning outcomes for their areas of expertise. They might do it themselves or in consultation with subject matter experts from the next higher level of education (e.g., for TYIs, advice might be sought from faculty in the same subject matter areas in four-year institutions) and/or with representatives of business and industry knowledgeable about the subject matter area. The consultation with representatives of business and industry is more common for occupational fields rather than for the disciplines. The result of this strategy of developing learning outcomes is a separate listing of outcomes for each discipline or occupational field. There is little coordination among the outcomes across disciplines and fields. Integration of subject matter is left to the learner.

The next "generation" in strategy for developing learning outcomes is labeled the "transitional strategy." Here the approach is to bring a cross section of faculty involving a variety of disciplines and occupational fields together and ask them to develop a more general or generic list of learning outcomes. Usually there is a fair amount of "turfspersonship" as the various disciplines/fields compete for inclusion and recognition of their subject matter areas in the final list of outcomes. Here most of the energy focuses on relationships among the various subject matter areas with little involvement of external stakeholders. The resulting list is usually quite general and "academic" with outcomes addressing topics such as communications, computation, problem solving, and critical thinking. The learning outcomes recommended are very abstract, with little context of application, and timeless in that they are likely to stay in place for several years.

The most sophisticated strategy for developing learning outcomes is referred to as the "transformative strategy." With this strategy, one starts outside the educational institution by identifying and doing in-depth analysis of the changing context of life in the future and the resulting problems and opportunities likely to be faced in living and improving the state of affairs in the workplace, family, and community. Based on the analysis of problems and opportunities, the focus shifts to the areas of competence that will be most needed and effective. These areas of competence should add the most value to improved living. The result of using the transformational strategy to develop learning outcomes is the development of outcomes that are both integrative of subject matter areas (because that is how the challenges of living exist) and contextually linked or applied (because they are derived from real-world problems and opportunities). Often the resulting list is demanding in terms of the implications for change in direction, operation, and accountability of educational institutions. Because the promise and expectation of NDTYI is to be future-oriented and to break with tradition where needed, the transformational strategy will be used in this project as the approach to developing learning outcomes.

Process of Developing New Designs for Learning Outcomes

The process used to develop the design specifications for learning outcomes and illustrative new designs for learning outcomes for TYIs involved meetings of the NDTYI Work Group and the National Design Group, a review of literature, and group interviews at several TYI campuses. The process started with the NDTYI Work Group and focused on developing an initial draft of the design specifications for learning outcomes. The draft of design specifications for learning outcomes was then reviewed and edited by the National Design Group.

As directed by the resulting design specifications, the project staff began a review of literature on the changing nature of work, family, and community life on entering the 21st century and implications for education, particularly for the TYI. Central to this process was grounding the learning outcomes in the demands of future living, in contrast to the past or even the present way of thinking about the purposes of TYIs. The aim was to make certain to break with the current mold of designing and operating TYIs where that was needed in setting the tone and direction for NDTYI.

Using the review of literature as a base, an initial draft of an illustrative set of learning outcomes was developed. The review of literature and list of outcomes were first critiqued by the NDTYI Work Group and then by the National Design Group. Suggestions were made for strengthening the literature review, and modifications were made to the list of outcomes. Next, the development process for both the design specifications and the illustrative set of learning outcomes involved direct and indirect review through small group interviews on TYI campuses. Indirect review came by asking those interviewed what they thought were the criteria for an effective set of outcomes and asking them to list important outcomes. The suggested criteria and outcomes were then compared with existing drafts of design specifications and learning outcomes. Direct review came by sharing the existing drafts of the design specifications and learning outcomes with those interviewed and asking for their comments. One of the groups interviewed was students; the interview of a diverse group of students occurred on the San Diego Community College Campus. The second and third interviews were with faculty and staff and occurred on the Tunxis Community Technical College Campus in Farmington, Connecticut, and Miami-Dade Community College in Miami, Florida. The results of these interviews were shared with the National Design Group and resulted in further modification of the illustrative set of learning outcomes.

The final version of the learning outcomes developed as a part of NDTYI is presented later in this section. Another illustrative new design for learning outcomes was discovered in Australia when project staff members were invited there to present a preliminary report on NDTYI at an international conference on learning technology and the learning environment. The Australian set of outcomes is also presented later in this section.

Connecting Learning Outcomes to Previous Elements of Design Process

If the NDTYI was to be coherent, the design specifications and illustrative new designs needed to be connected and aligned with the previous elements of the design process—learning context and learning signature. Since care was already taken to align the learning signature with the learning context, the connection of learning outcomes to the learning signature is emphasized here. The design specifications for the learning signature and the connection to development of design specifications and illustrative new designs for learning outcomes are as follows:

- *Be Responsive to the Learning Context:* Just as the learning signature needed to be aligned with the learning context, the learning outcomes needed to be aligned with the learning signature.

- *Give the Institution a Worthy Identity:* The learning outcomes must have integrity with the identity of the institution. Being worthy means that the outcomes must pass the scrutiny of intellectual and moral standards expected of accredited institutions of higher education.

- *Create an Accurate Image of the Institution:* The learning outcomes must assist in developing the institution's image. The outcomes form a way of more specially communicating what the institution wants to be and is about.

- *Give a Unique Character to the Institution:* The learning outcomes can be used to enhance and put into practice the special character of the institution.

- *Give Focus and Coherence to All Components of the Institution:* The learning outcomes play a major role in giving direction to the institution and extending alignment into the learning experience.

- *Communicate Powerfully the Promise of the Institution:* The learning outcomes are a more specific statement of the promise of the institution.

- *Be Easily Understood by Institutional Stakeholders:* The learning outcomes need to be clear and understandable by the institution's stakeholders. The outcomes form an overall message of what the institution is about, often wanted by stakeholders but missed by communications about/from all of the institutions' various programs and sub-units.

- *Have Shared Ownership by all Institutional Staff, Students, and Supporters:* The learning outcomes must be developed in a way that gives ownership by staff, students, and institutional supporters. Often a real challenge occurs in gaining consensus of all of these groups on the statement of learning outcomes.

- *Be Consistently Integrated into the Operation of the Institution:* As with the learning signature, the learning outcomes must be integrated into the fabric of the institution. All dimensions of the institution must make contributions and add value in striving for the learning outcomes, otherwise the outcomes will be merely rhetorical and have little real meaning or impact.

Key Concepts Regarding Learning Outcomes

As with the development of design specifications for the learning signature, several key concepts emerged from the development of design criteria based on the learning context and learning signature for TYIs and the review of literature and discussions with the NDTYI Work Group and National Design Group specifically focusing on learning outcomes. Those that particularly stood out were the following:

- *Wide Range of Learners:* TYIs need to continue to provide ready access and serve the needs of a diversity of learners in terms of ages, interests, needs, expectations, ethnicity, socioeconomic status, and gender. The hallmark of many TYIs, particularly the public technical and community colleges, is and should continue to be providing access and responsiveness to all who wish to learn in areas addressed by the institution's mission.

- *Wide Range of Lifeplaces:* TYIs need to continue to serve the educational needs of the many settings and situations in which an individual makes a contribution and lives out a productive life. For most people, three of the most important "lifeplaces" are the workplace, family (home), and community. Institutions must guard against focusing on only one lifeplace at the expense of others, as the lifeplaces are often closely related with success in one constrained by lack of success in another.

- *Wide Range of Talent and Human Development:* TYIs, among them as a group and often in a single, comprehensive institution, must address the multitude of ways in which individuals contribute to the common good—a better society. Care must be taken so that TYIs do not drift to a focus on only certain talents (e.g., the academic, the vocational) and areas of human development (e.g., the cognitive at the expense of the social).

- *Future Oriented:* TYIs must focus on the challenges and opportunities of living on entering the 21st century. As noted in describing the learning context in Chapter Two, the changing conditions of living include globalness, networks, diversity, resource constraints, and increased educational demand.

- *Change Agents:* TYIs must provide educational experiences that enable and empower learners to take on the challenges and recognize and seize opportunity to improve living conditions locally, nationally, and internationally.

- *Excellence:* TYIs must strive for what it means to provide the highest quality learning experiences and results. Everyone is advanced when educational institutions increase the competence of learners to the highest level possible. This means reaching for educational standards that may not yet be easily or clearly measured, yet represent hopes and aspirations that may later become commonplace.
- *Consensus:* TYIs must press for agreement among a wide group of stakeholders on what the institutional mission means in terms of learning results. More exactly and precisely, "What is the institution about when it comes right down to learning?" "What learning is promised?" "What learning should be expected when accountability is questioned by learners, staff, and supporters?"
- *Expedient:* TYIs must be clear and to-the-point in setting forth what learning is expected from their actions. The learning expectations must be explainable and have recognizable validity to a diverse audience.

Design Specifications for Learning Outcomes

With these key concepts in mind, the discussions by the NDTYI Work Group and National Design Group led to the development of a set of design specifications for the learning outcomes of an effective 21st century TYI. The design specifications should serve as a guide for the development of learning outcomes by a specific institution. The suggested specifications for a set of learning outcomes are shown in Exhibit 4. These specifications are a major product of NDTYI and should serve to review and/or develop the learning outcomes for a specific institution.

Exhibit 4

Design Specifications for Learning Outcomes

- *Aligns with the learning context and signature:* Learning outcomes pay close attention to the design specifications for previous design elements.
- *Survives tests from key internal and external stakeholders for the educational institutions:* Learning outcomes have been examined and are supported by students, staff, and the wider community of the institution.
- *Focuses on all customers of the educational institution:* Learning outcomes are inclusive of the needs of all users and partners in the institution—individuals and organizations.
- *Addresses key lifeplaces—work, family, and community:* Learning outcomes address the roles and responsibilities of work, family, and community life.
- *Represents balanced attention to all areas of human talent and development:* Learning outcomes address all areas of competence and skill—vocational, cognitive, aesthetic, and social.
- *Directs attention towards changing context and challenges of life upon entering the 21st century:* Learning outcomes are future oriented as relates to the problems and opportunities in work, family, and community life.
- *Prepares learners to be active change agents in improving the future state of affairs in society:* Learning outcomes prepare learners to be active in improving the quality of life in our culture.
- *Involves reaching for a meaning of educational excellence that provides challenges and opportunities:* Learning outcomes address the highest expectations for what it means to be an educated person, even beyond what is easily measured.
- *Represents goals for all learners in two-year institutions of higher education (e.g., age, gender, socioeconomic status, and ethnicity and culture):* Learning outcomes are inclusive of the needs of a wide diversity of learners.
- *Communicates clearly and concisely:* Learning outcomes are brief and meaningful.

New Designs for Learning Outcomes

Taking its lead from the design specifications stated in the previous section, this section of the report goes outside the TYI and addresses the changing nature of work, family, and community life in the United States (and to some extent the world) as we enter the 21st century. After identifying and describing these changes and related challenges, the implications for education are set forth. Finally, two sets of learning outcomes, which were mentioned earlier, are presented to illustrate what NDTYI has in mind when focusing on transformative learning outcomes for TYIs.

Changing Nature and Challenges of Life on Entering the 21st Century

The United States is in an "era shift." It is a time of decentralization and technological advancements that are changing fundamental relationships between institutions, communities, families, businesses, and individuals. The sense of security from stable lifetime work, family, and community relationships has passed, and the new paradigm is one of continuous change. Learners in TYIs must be prepared for the social and psychological demands of change. It will be the responsibility of each individual, in relationship with others, to focus and to direct his or her life. The next section will address the changing nature of work, family-life, and community roles and responsibilities—the important and common lifeplaces. These changes have implications for education, and particularly for the necessary learning outcomes of TYIs.

Changing Nature and Challenges of Work Life

The 21st century will see major changes in the make-up of the workforce, the nature of work, and the effects on workers. These changes and resulting challenges are described below.

Changing Work and Workforce

Two recent authors provide some sense of the changing nature of work and the workforce: Bridges (1994) *Jobshift: How To Prosper in A Workplace Without Jobs* and Rifkin (1995) *The End of Work*.

Transformation in Work

Bridges (1994) sees three major changes in technology and work:

1. *Informate*, a term that describes the way information technology inserts "data" in between the worker and the product, is becoming a common phenomenon in the workplace. For example, a steel worker is now more likely to manipulate data about the sheet of steel than manipulate the steel.

2. The world of things is being replaced by the world of data. In 1970, American corporations spent 11% of their durable equipment outlays on information processing, in 1980 that figure had risen to 51%.

3. Communication technology has a multiplier effect. The entire world is interlocked, with time and distance no longer a buffer against the effects of change. The changes, reactions to changes, and secondary changes create a turbulence. (pp. 10-17)

To cope with these changes in technology and work, organizations have begun to make decisions more quickly by reducing hierarchies, turning over the design of products to crosstrained and self-managed teams, shifting to just-in-time systems of material handling, and bringing suppliers and customers onto product development teams (p. 17). Turbulence requires that every organization build the management of change into the structure of the workplace: "The job as a packet of responsibility, rewarded according to a fixed formula, and a single reporting relationship, is a roadblock to change" (p. 26). According to Bridges, organizations must search for speed, "faster product development, faster production, faster delivery, faster information processing, faster service, and faster implementation of all of the changes are necessary to keep up with the market" (p. 26).

Team Work

Bridges (1994) notes that corporations are moving to teamwork where there is constant collaboration. For example, at Microsoft Corporation there are no regular hours; buildings are open twenty-four hours; people work anytime, all the time; no keeping track of hours, but everyone is watching output, and accountability to the team (p. 40).

New Job Rules

New rules for jobs according to Bridges (1994) are as follows:

- Everyone is a contingent worker. Contingency is based on the results of the organization. Each person's value to the organization must be demonstrated in each successive situation.
- Workers need to develop the mindset of external vendors who are "in business for themselves" with tasks outsourced to them by the organization.
- The benefits of the workplace will be relationships and the work itself.

- Workers need to maintain their own lifework plan, taking primary responsibility for health care, retirement funds, and negotiating compensation.
- Workers need to be able to switch focus quickly, to work with people with very different vocational training and mindsets, to work in situations where the group is self-managed, to work without clear job descriptions, and to work on several projects at the same time.
- Workers need to be prepared to move from one organization to another.
- Workers will have to manage the shift from job to job for themselves (with organizations making every effort to train and counsel people who are making difficult transitions).
- Security resides in the person rather than the position, and to a cluster of qualities that have nothing to do with the organization's policies and practices. (pp. 50-52)

In the context of these new rules, Bridges suggests that job security will depend on three characteristics:

1. *Employability:* Being attractive to employers, having the skills that the employer needs at the moment.
2. *Vendor-Mindedness:* Being a traditional loyal employee is no longer an asset. Employees need to act and move as if they have been hired to accomplish specific tasks.
3. *Resiliency:* Being able to bend and not break, to let go readily of the outdated and learn the new, to bounce back quickly from disappointment, to live with a high level of uncertainty, and to find security within themselves rather than from outside. (p. 56)

Nature of Work

Bridges (1994) describes the world of work of the future as a series of projects, and the organization built around a mix of projects. Project-oriented structures offer the important advantages of tailor-made, designed-to-fit, unique tasks; flexible resource commitments; defined-terminal points; and an absence of enduring commitment that encourages resistance to change (p. 57). Bridges encourages individuals to put together personal strategies where workers see every potential work situation as a marketplace where things are exchanged. The market defines things in terms of their exchange value, and the worker needs to look past her or his past and current employer for new markets for products and services (p. 59).

End of Work

Rifkin (1995) notes in his book, *The End of Work*, that, "Redefining opportunities and responsibilities for millions of people of a society absent mass formal employment is likely to be the single most pressing social issue of the coming century" (p. xv). He goes on to claim that because the idea of a society not based on work is utterly alien to any notion we have about how to organize large numbers of people into a social whole, we are faced with the prospect of having to rethink the very basis of the social contract (p. 120).

One of the most challenging phenomenon of the late 20th century is the dislocation, restructuring, outsourcing, part-time, and temporary employment of millions of workers and the often accompanying disparities in income, job security, and benefits compared to the relative job security of the Post World War II decades. Rifkin's research findings suggest that we will be facing a depressed workforce, a rising part-time work contingent, increasing numbers of long-term technological employment, and a disparity in income between the "haves" and the "have nots" which will result in a two-tiered economy (p. 181).

Declining Middle

The general agreement among social scientists is that the U.S. society is moving from one stage of the industrial revolution to a new stage. Rifkin (1995) refers to the stage to which we are moving as the "Third Industrial Revolution," while Toffler (1980) called it the "Third Wave Society." Still others (e.g., Tapscott & Caston, 1993) refer to the coming stage as the "Second Era of Technology." The terms may differ, but there is agreement among authors that society is moving into a new era. This movement is affecting all sectors. In the 1970s and early 1980s, the decline in the middle class came from the manufacturing sector; however, in the late 1980s and in the 1990s, the decline in the middle is made up of the college-educated. Between 1987 and 1991, the college-educated made up the bulk of management-level positions in the American economy. Over the past ten years, more than 3 million white collar jobs were eliminated in the United States (Rifkin, 1995, p. 9). From 1980 to 1990, more than 1.5 million mid-level management jobs were eliminated (p. 171). Even as the economy rebounded in 1992 with a 2.6% growth rate, more than 500,000 additional clerical and technical jobs disappeared (p. 9). United States corporations are eliminating more than 2 million jobs annually (International Labor Organization, press release, Washington, DC, ILO, March 6, 1994). According to reports from the Michigan State University College Employment Research Institute (1993, as cited in Rifkin, 1995), more than 35% of recent graduates have been forced to take jobs that do not require a college degree, up from 15% in the late 1980s (Rifkin, 1995, p. 171). This Institute reported that the job market for the college educated is the poorest since World War II.

At the Top

In 1953, corporate executives earned 22% of corporate profits; in 1987, they earned 61% of profits. In 1988, the average CEO earned 93 times the earnings of the average (manufacturing) worker. This represents a greater consolidation of wealth for those who are executive management, contributing to the disparity of incomes and resulting in the before-mentioned two-tiered economy (Rifkin, 1995).

Knowledge Worker

The knowledge worker is just below the top income level of workers. These jobs involve the use of state-of-the-art information technology to identify, process, and solve problems. They are the creators of the stream of information that makes up the post-industrial, post-service, global economy. Their ranks include design engineers, lawyers, investment bankers, management consultants, financial and tax consultants, architects, strategic planners, marketing specialists, film producers and editors, art directors, publishers, writers, editors, and journalists. The top income level, 3.8 million or 4% of the population, earns as much as the entire bottom 51% of the American wage earners—49.2 million people (Rifkin, 1995, p. 174). The entire knowledge class comprises 20% of the workforce and earns more income than the remaining 80% combined, $1,755 billion (p. 174). The comparatively high incomes of knowledge workers to other workers contributes to the dual economy phenomenon or, according to Reich (1992), "the divergence of economic fates of Americans" (p. 173).

Part-Time Employed

During the mid-1990s we are experiencing a shift to a core of full-time employees and a peripheral pool of part-time or contingent workers. "Just in time employment" is the practice of companies that use people only as needed. Part-time temporary workers earn 20% to 40% less than full-time workers doing comparable work (Rifkin, 1995, p. 194). Part-time and temporary workers are both clerical and professional. The *Executive Recruiter News* reported that more than 125,000 professionals work as temporary workers (as cited in Rifkin, 1995, p. 192).

Effects on the Individual

Rifkin (1995) finds that there is a "world filling with millions of alienated workers who are experiencing rising levels of stress in high tech environments and decreasing job security" (p. 181). An electronic supervisor now monitors 20% to 35% of clerical workers through computer systems. The critical factor of productivity has shifted from a physical to a mental response and from brawn to brain (p. 189).

Americans still define themselves by their work (Rifkin, 1995, p. 195). Employment is more than income; for many it is self-worth. Studies conducted over the past decade have found clear correlation between rising technological employment and levels of depression and psychotic morbidity (p. 195). Cottle, from the Massachusetts School of Professional Psychology, has met with the hard-core unemployed, those who have been unemployed more than six months and have given up looking for employment. Cottle found that the hard-core unemployed experience symptoms of pathology similar to dying patients. They manifest the classic signs of dying. There is a common progression of symptoms; the first is anger at a former employer and coworkers. Second, they turn inward and become reclusive, which further limits their ability to become employed. A challenge of the 21st century will be for society to transition from an occupationally identified population to a broader criteria for personal identification (pp. 195-197). The changes in the workplace, changing employment patterns, technological advancements, and changing or loss of occupational identity will be a challenge for NDTYI.

Educational Implications

The educational implications of the changing nature and challenges of work life will be described in terms of efforts to identify work-skill requirements to be addressed by educational institutions. Two major initiatives will be described: (1) SCANS (1992), which addressed the more general employability skills needed to enter and change with the changing nature of work, and (2) the National Skill Standards Board initiative, which focused on the specific skill-needs of industries in the U.S. Next, this section will address some of the major research efforts analyzing the results of these initiatives on identifying work-skill requirements and developing learning outcomes, particularly for TYIs.

Employability Skills

National attention has been directed at improving the skills and employability of the American workforce. In 1991, Secretary Lynn Martin convened the Secretary's Commission on Achieving Necessary Skills (SCANS), a bi-partisan, multi-sector commission for the purpose of linking education to the "real world" of work. The aim was to develop students into productive workers, responsible citizens, and more complete human beings (SCANS, 1992). Chair William Brock wrote in the report's cover letter to Secretary Martin, "The United States needs to recognize that schools and students do not exist in a vacuum but are part of a community, and that this nation needs workplace competencies integrated into national standards and assessment of core academic subjects" (p. xiii). The characteristics and skills identified were needed to support a high-performance economy, characterized by high-skills, high-wage employment (p. xiii).

The high-performance economy envisioned by the SCANS report has high skills, high wages, and full employment—in which every human being's resources are used well. The high-performance workplace, the foundation of the high-performance economy, has the following characteristics:

- Flexible, decentralized production
- Employee empowerment by giving employees decisionmaking responsibilities, career paths, and wage progression tied to skills
- Management that reduces errors and rework
- Continual training to upgrade skills and employee's abilities to function effectively in a problem-oriented environment

- Increasing integration of tasks through work teams and the identification of workers with their products and services

SCANS brings back a common term of the 1950s and 1960s, "know-how." Know-how has moved from the old job skills of reading, writing, comprehending (instructions), reliability, and following a set schedule, to new job skills of decision making, gathering and sifting information, setting and troubleshooting systems, organizing workflow and team arrangements, manipulating data to solve problems, and providing direction to colleagues (p. 12). For the nation to realize a high-performance workplace and a high-performance economy, SCANS links the high-performance criteria back to the schools. High performance must be consistent throughout the interlinking system of education and work.

SCANS (1992) reported that high-performance workplaces required a solid foundation in basic literacy and computational skills, in thinking skills necessary to put knowledge to work, and in personal qualities to be a trustworthy and dedicated worker. These characteristics and skills were further refined into competencies that would encourage a high-performance economy characterized by high-skill, high-wage employment (p. xiii). The competencies state that effective workers can productively use the following:

- *Resources:* Workers need to know how to allocate money, time, materials, space and staff.
- *Interpersonal Skills:* Workers need to know how to work on teams, teach others, serve customers, lead, negotiate, and work well with people from culturally diverse backgrounds.
- *Information:* Workers need to acquire and evaluate data, organize and maintain files, interpret and communicate data, and use computers to process information.
- *Systems:* Workers need to understand social, organizational, and technological systems; they need to monitor and correct performance; and they need to design and improve systems.

- *Technology:* Workers need to be able to select equipment and tools, apply technology to specific tasks, and maintain and troubleshoot equipment.

In addition, SCANS recommended the following foundational skills:

- *Basic Skills:* Reading, arithmetic, and mathematics, speaking, and listening
- *Thinking Skills:* Learn, reason, think creatively, make decisions, and solve problems
- *Personal Qualities:* Individual responsibility, self-esteem, self-management, sociability, and integrity

The report called for the competencies and skills to become the standard for both employers and schools, and that individuals should be provided with multiple opportunities to achieve them (p. xiv).

The Commission envisioned the skills becoming explicit objectives at all educational levels, assessment systems providing students and workers with a résumé documenting attainment of skills, SCANS know-how being incorporated into the human resource development efforts, the federal government leading the way to the high-performance workplace by advancing the SCANS agenda, and every firm in America creating its own strategic vision around the principles of the high-performance workplace (p. xvi).

The competencies and skills would be realized through the following recommendations:

- *Teaching and Learning in Context:* Teaching and learning should be offered "in context" so that students learn content while solving real problems. "Learning in order to know" should not be separated from "Learning to do."
- *Improving the Match:* What work requires and what students are taught need to be much more closely matched, which changes how instruction is delivered and how students learn.

- *High Performance:* A new system of administration and assessment needs to be developed and implemented.

- *Community Involvement:* The entire community needs to be involved in teaching and learning.

The SCANS report noted that one third of new entrants into the workforce are members of minority groups (p. xvii) and that 80% of the workers of the 21st century are already on the job (p. xviii). Education and training programs need to take into consideration differences in family incomes, limited English-speaking proficiencies, and different lifestyles.

Labor unions and industry-specific groups can develop training strategies and materials around the SCANS competencies. Students/workers would be certified in workplace competencies. There could be a nationwide voluntary assessment system bridging education and work. The individual's résumé would include courses, projects completed, and proficiencies attained—beginning in middle school (SCANS, 1992, p. 3). Information would flow from employer to educator through recruiting and employee development activities. A national assessment system would be implemented to permit educational institutions to certify the levels of SCANS competencies that students have achieved. Employers, both public and private, would define requirements for higher-level competencies. Employment-based assessment would be needed to diagnose the individual's learning needs (p. 3).

Kantor (1995), in her book *World Class*, supports the argument for standards—world standards. She calls the 21st century the "World Century" (p. 12). The competition is no longer among corporations but between global networks and world class skill centers. To be "world class," businesses must be in the global network and, therefore, must meet world standards to be a member. Some companies are "born global" and can implement universal standards, as has happened in software, telecommunications, and health care technologies (p. 26). In the 21st century, "those who set the standards call the shots" (p. 354). Setting or meeting standards will be necessary to create a world class education center.

World class education centers gain competence from "core capabilities," such as flexibility, and can be renewed or updated; the organizational competencies are general and permit diversity, which in turn creates new industries. World class education centers have deepening, widening skills that link them to the global economy (Kantor, 1995, p. 28). The world class centers are preeminent for "thinkers, traders, and/or makers" (p. 28).

Industry-Based Skill Standards

The Goals 2000: Educate America Act, passed into law in 1993, established the National Skill Standards Board. The purpose of the board is to develop and implement a voluntary system across the country of industry skill standards and certification. According to Hoachlander and Rahn (1994), an effective system of national skill standards will require completing four tasks:

1. Reaching consensus on what constitutes an industry and the occupations within it.
2. Settling on how specific and detailed our list of skills will be and how we will determine them.
3. Determining how to set standards and who will decide what standards to set.
4. Figuring out how best to assess students and what certification signifies. (p. 20)

As a nation, we have a long way to go before completing these tasks.

Work at identifying industry skill standards was begun prior to passage of the Goals 2000 legislation when the U.S. Departments of Education and Labor (n.d.) commissioned 22 pilot projects in 19 major industries back in 1992 and 1993. The reports of these projects, which present long lists of general and specific occupational skills competencies in different formats, have been under review by the National Skill Standards Board since its creation. More information on national skill standards is provided in a four-volume report (Wills, 1993), focusing on a review of skill standards (education and industry driven) in the U.S. and selected other countries. While applauding the value of developing and using skill standards, Wills and her research team concludes, "The largest challenge . . . will be the development of the capacity to exploit the standards to their fullest potential within organizations and governments" (p. 29). In other words, the standards must be used by government, education, business and industry, and labor.

The July 1996 newsletter of the National Skill Standards Board entitled *WorkWise* reports that some of their current activities include increasing public awareness of the need for skill standards, awarding studies to implement skill standards in several industries, and implementing a series of projects to incorporate skill standards into effective school-to-work programs. Clearly, as the work on skill standards develops, it will have implications for TYI learning outcomes, particularly as outcomes address worklife roles and responsibilities.

Employability Skills in Practice

Stasz, Ramsey, Eden, Melamid, and Kaganoff (1995) explored skills and work-related dispositions in technical work by closely examining skills in seven target jobs in work sites representing diverse industries—health care, traffic management, transportation, and semiconductor manufacturing. The project research goal was to improve the understanding of skills as they are manifested in technical work, both by extending the theoretical conception of skills and by providing empirical observations of skills in practice. The study explored employer's strategies for obtaining the skills needed under conditions of technological or organizational change (p. iii).

The project research focused on three skill areas—(1) problem solving, (2) communications, and (3) teamwork—as well as work-related dispositions because all have been generally perceived to be required in the workforce (Stasz et al., 1995). Further, it is widely agreed that the workforce lacks these capabilities, and to improve them requires public policy action (p. 11). Capelli and Rogowsky (1995, cited in Stasz et al.) surveyed workers and supervisors on the importance of skills as defined by SCANS (1992), their contribution to job performance, and the relationship between the new system of work organization and skill requirements. Employees ranked thinking skills (problem solving) first, followed by "ability to work with others," communication skills (speaking, listening, writing), and the "ability to work in teams" (Stasz et al., 1995, p. 11). Supervisors' ratings, according to Stasz's recount, overlapped with the workers (p. 11).

Industry-Based Skill Standards in Practice

Bailey and Merritt (1995) analyzed the skill standards movement and twenty-two U.S. Departments of Labor and Education pilot projects for various industries in the U.S. Their research generated a detailed description of two models within the skill standards movement (Merritt, 1996): (1) the skill components model and (2) the professional model. The skill components model is based on limited passive roles that workers are expected to assume in traditional hierarchical organizations (p. 1). The academic skills are learned prior to vocational skills and are useful to the extent that they help workers master the required list of tasks. Workers do not transfer the enabling competencies to their applications (Stasz, McArthur, Lewis, & Ramsey, 1990, as cited in Merritt, 1996, p. 1). In the end, the manager, not the worker, retains control over the decision of when to use the skills or tools, the process of developing skill standards, and their certification.

The other model identified by Bailey and Merritt is the professional model. This model assumes that workers have the ability to apply general knowledge to a variety of nonroutine circumstances or situations (Wolfson, Trebilcock, & Tuohy, 1980, as cited in Merritt, 1996, p. 1). Professionals are rewarded for autonomous, proactive, nonroutine behavior and are expected to make important decisions on a client's behalf. At the same time, professionals are expected to carry out specific tasks. In the professional model, technical and academic skills are the foundation or enablers for more complex general functions.

Educational Domains for Work Skill Requirements

Looking specifically to the role of the community college in preparing the workforce, Grubb, Badway, Bell, and Kraskouskas (1996) identified five areas of educational content for occupational preparation. Their analysis was done as a basis for thinking about and identifying/developing strategies for integrating general and occupational studies in community colleges. The five areas of competence they describe are as follows:

1. *Job-Specific Skills:* Production skills used in particular work
2. *Generic-Skills for Modern Workplaces:* Skills used in a variety of occupations: computer applications, business procedures, diagram/blueprint reading, quality assurance techniques
3. *Related Academic Competencies:* "SCANS skills": decisionmaking, problem solving, communications skills, independent learning, understanding systems, organizing resources

4. *Career Exploration and Decisionmaking:* "Foundation skills": reading, writing, and communications skills; appropriate mathematics, including problem solving; appropriate science and social studies, including workplace applications

5. *Economic, Political, and Social Aspects of Work:* Understanding broad economic and political issues; responsibilities of citizens and community members; traditional goals of liberal education (p. 8)

This listing represents one of the most recent interpretations of what might be the general areas of learning outcomes from a work requirement perspective. The next part of this section turns to the family and community life requirements as two additional and important areas of learning outcomes for the TYIs.

Changing Nature and Challenges of Family Life

The 21st century will bring many changes to homes and families, resulting in new challenges to individuals and families as an institution. These changes will include changing demographics, rising dual economy, lack of affordable housing, and impact of technology.

Changing Demographics

Some of the demographic trends of the late 20th century that affect family formation (DaVanzo & Rohman, 1993) and help to describe the context and challenges of the learner in TYIs are the following:

- Adults are marrying later due to greater education and work opportunities for women, low incomes and lack of economic opportunity for some men, greater acceptance of cohabitation outside of marriage, greater ability to control fertility, and greater acceptance of out-of wedlock childbearing.
- More adults are living in non-family settings. In 1991, 30% of all households consisted of "non-family" households (p. xii).
- The divorce rate is increasing from 9 per 1,000 in 1969 to 21 per 1,000 in 1988 (p. xii) due to the increase in the cohort of baby boomers reaching the marriage age, increase in labor force participation of women at all ages of family formation,

changes in gender roles, and increased acceptance of the primacy of individual needs over group needs.

- More births are occurring outside of marriage (5% in 1960 compared to 25% in 1990) due to the decline in the number of births to married women, the rise in birth rates for unmarried women, and ethnic differences (67% of births to African-American women were out-of-wedlock, compared with 25% of births to Caucasian women; Caucasian women saw an increase in births among women in their twenties and thirties, more highly educated and professional).
- More women are participating in the labor force—women with children under 18 are more likely to work outside the home (28% in 1960; 68% in 1992) due to increases in women's education, the growth in the service sector, slow wage growth for men, rising housing prices, increased prospects of divorce, and birth control to regulate the size of the family and the timing of births.
- Population is becoming older due to increase in life-expectancy and the decrease in births over the last few decades—persons over 65 represented 4% of the population in 1900, 13% in 1991, and estimated to be 25% by 2025. (pp. xi-xiv)

Children and the Dual Economy

Just as the workplace is changing, families continue to change. The impact of changes in work and the workplace affect the family, and changes in the family affect work and the workplace. Some of these changes may be positive, others negative. The dual economy was described earlier and reported in the 1993 Census. They found that the number of Americans living in poverty in 1992 was greater than at any time since 1962 (Rifkin, 1995, p. 177). The total number in poverty was 36.2 million people with 40% of those being children. The poverty rate was, 11.6% for Caucasians, 29.3% for Hispanics, and 33% for African Americans. Among the poor, 40% were working in low-paying or part-time jobs (p. 177).

Change in Housing

The statistics cited above mean that fewer families are able to own their own homes. In 1980, a home required 37.2% of the average American's income. This was up from 29.9% in the 1970s. Consequently, in the 1980s and early 1990s, home ownership dropped for all age categories. In the February 5, 1988, *Wall Street Journal*, it was reported that Americans were having difficulty purchasing homes (as cited in Rifkin, 1995, p. 179). For persons in the thirty to thirty-four age bracket, the rate of home ownership dropped from 61% to 53.2%, and, for the thirty-five to thirty-nine group, home ownership declined from 70.8% to 63.8% (p. 179). In 1995, when housing was discussed, an additional category needed to be included, which was the number of homeless persons. A 1991 survey of 25 cities found 600,000 persons were homeless, which included 90,000 children (p. 180).

Impact of Technology on the Family

The Third Wave family (Toffler, 1980) or the family at the turn of the century will continue to have many forms: two parents, single parents, individuals, childless couples, same-sex marriages, adult clusters, and family clusters. Part of the diversity of the 21st century will continue to be the diversity of the family structure. Individuals will experience multiple "family" arrangements over a lifetime.

Toffler (1980), as well as others, recognized that technology would have an impact on the family. He suggested that one of the most profound effects on the family will be the shifting work back to the home. Technology makes it possible for individuals to work either at home or in work centers close to home. The linking between family and work has always been strong. Just as the factory and office caused the shift of parent's time away from the family, the technological changes in the workplace will cause a shift in family communication patterns and activities. The family in the coming era will have the ability to work together or to work in parallel arrangements within the home. The presence of work in the home will mean a fundamental shift in family relationships and family interaction.

The functions that were transferred from the home to schools, hospitals, and human service organizations may return to the home often via telecommunications. Toffler (1980) predicts that children in the 21st century will again experience adults working. The family may, in fact, extend itself in ways similar to the families of the 1930s. Families in the 1930s often included an unrelated child or young adult who lived with the family and contributed to the family work. In the 21st century, the family will be able to function in an extended fashion through electronic communications. In 1980, 6% of American families were classified as expanded or extended, and Toffler predicts that the number will triple by the turn of the century (pp. 219-222).

Centrality of Time, Place, and Attention

Bellah, Madsen, Sullivan, Swidler, and Tipton (1993) in their book, *The Good Society*, made the point that,

> The family is in flux, and signs of trouble are widespread. The idea of the nuclear family is difficult to create and to keep in place. The communities of support for the family have weakened, and many family functions have been taken over by the economy and the state. While there are practical and sometimes moral reasons for the decomposition of the family, it coincides neither with what most people in our society say they desire nor, especially in the case of children, with their interests. (p. 45)

These authors go on to describe the postnuclear family as being characterized by a shift from child to adult centeredness, to family having a purpose of generating personal satisfaction, to increasing divorce rates with long-term consequences for children and the larger society, and to reducing the ability to depend on extended family.

Educational Implications

Changes in families have significant implications for educational institutions, including TYIs. For good, and sometimes for bad, family is the young person's first teacher, first community, and first workplace. Many of the most important skills for life (e.g., communications, relationships, problem solving, responsibility) are first approached and often accomplished in the family (Way & Rossmann, 1996). The impact of the family on the young, with its wide variety of forms, is part of nearly everyone's life. Individuals probably spend as much time dealing with their family roles and responsibilities as with work and community roles and responsibilities. And there is much to be learned about being effective in family roles and responsibilities over a lifetime.

Elkind (1995) has contrasted the stereotype of the modern family common in the United States over the past fifty years with what he termed the postmodern family, more a reality today, and then suggests implications for education. The contrasting features of the modern and postmodern family are described as follows:

- Shift from nuclear family as ideal to many other forms of effective family life.

- Shift from romantic, one-person-for-a-lifetime-and-ideal-mate love to more temporary, different relationships based on consensual love.
- Shift from mother having instinctive need to care for children to shared parenting by both parents and other caregivers.
- Shift from domesticity, where each family member owes primary allegiance to the family, to urbanity, where boundaries between home and place of work and between private and public spaces are much more open and flexible.
- Shift from togetherness with emphasis on placing the family ahead of self to autonomy, where each family member focuses on her/his own interests, sometimes putting them before those of the family.
- Shift from parenting as intuitively knowledgeable about child care to parenting as a learned technique.
- Shift from children seen as innocent and needing parental guidance, limit setting, and protection to children as competent and able to deal with the challenges and complexities of life (e.g., outside child care, divorce, poverty, crime).
- Shift from adolescents seen as immature and needing adult support and guidance to adolescents as sophisticated and knowledgeable in such areas as drugs, AIDS, and modern technology. (pp. 10-13)

With the change to a postmodern family, Elkind (1995) suggests that education will need to mirror the kinship structures, sentiments, values, and perceptions of the emerging family characteristics. For example, educational institutions will have to recognize many different forms of family, provide for shared parenting, and use more sophisticated curricular materials that address the problems faced by families and family members who are more urban and autonomous.

Changing Nature and Challenges of Community Life

The concern for families and children extends to concern for communities. Etzioni (1993), in *The Spirit of Community*, links concern for children and parents with community. He writes,

> The moral voice of the community is based on shared values. The underpinnings of society are based on people knowing one another. If there is not viable community, if people do not know one another, then the underpinnings of morality are lost. The moral voice does not just censure, it blesses. Communities need to hear the moral voice of welcome, concern, encouragement and celebration. (pp. 33-34)

Etzioni finds that the moral voices are no longer heard with clarity and conviction.

To Etzioni (1993) the challenge of the 21st century is to reverse the dearth of time that parents are able to spend with their children: "Any industry that would have experienced the same downsizing and replacement (as the parenting industry of the 1980s and 1990s) with less qualified personnel would experience a decline in quality" (p. 56). He does not criticize working parents or single parents, but he is concerned that parents and children do not have time together. Parenting is commitment. Whether it is one parent or two, it is the scope of commitment that is important (p. 56). Children require a commitment of time, energy and self (p. 56). He cites the National Commission on Children Report (1991, cited in Etzioni, 1993), which called for the revaluation of children's situation and the need to show a greater respect for children by making parenting a less taxing and more fulfilling experience (p. 161).

To bolster the family, Etzioni (1993) recommends concentrating on community building. He finds that we have lost the traditional community and now live in a society of individuals isolated from one another, with a lack of caring for one another, and with exposure to rowdiness and crime (p 117). The following new forms of community are emerging:

- *Urban Villages:* Places where neighbors know one another, members act together on political issues, various ethnic groups can live together without difficulty, and where residents watch out for the welfare of each others' children.
- *Small-Town Life and Working at Home:* Increasing numbers of people are moving out of the central cities and suburbs to smaller towns and, with use of technology, taking work with them.
- *Non-Geographic Communities:* These are communities made up of people who do not live next to each other but have formed strong connections because of where they work, study, care for their children, go to church, or for leisure. (p. 117)

To strengthen new and traditional forms of community, Etzioni suggests that we change orientation in terms of how we use our energy, invest our time, and allocate our resources—changing our concepts of "making it" and "habits of the heart"; work out conflicts between working and serving community; redesign our physical environment (e.g., workplace, home, public spaces) to be more community-friendly (e.g., places to mingle, enhance sociological mix); and foster volunteer endeavors that make wise use of our commitment to the common good—that is, ways that make it count (pp. 123-131).

The first line of community building is maintaining and establishing community institutions. Educational institutions have historically played an important part in building communities. They are part of the common core of institutions for all members of society (p. 134).

Educational Implications

In writing about the core competencies required to be effective in community building, Brown and Isaacs (1995) recommend the following areas of focus:

- *Commitment:* skills at sharing intense learning experiences; working toward ideals; collaborating on needed tasks; jointly facing adversity; and bringing forth the spirit, resources, and energy that create involvement

- *Contribution:* skills at contributing personal gifts as a community resource through individual action on a daily basis

- *Collaboration:* skills at providing reliable interdependence, supporting a web of information that flows in all directions, acting autonomously for the common good, meeting and communicating face to face, and creating a web of trust through personal relationships

- *Continuity:* skills at developing institutional memory and introducing new community members to rights, responsibilities, and practices

- *Conscience:* skills at embodying or involving guiding principles, ethics, and values in concrete actions and decisions, and developing a "bill of rights and responsibilities" for members

- *Conversation:* skills at using dialogue as a medium for evolving collective action, and using personal and electronic conversation to enable members to share learning, create innovative products and services, and collaborate on continuous improvement

Writing in the same collection of essays as the previously cited authors, Gerald and Teurfs (1995) reinforce the importance of conversation to community building and the role of dialogue in the process. They note that productive dialogue will require skills at uncovering and correcting incoherence through

- Suspension of judgment to build a climate of trust and safety.
- Identification of assumptions to get at core misunderstandings and differences.
- Listening in order to learn, build relationships, and staying "present."
- Inquiry and reflection to create breakthroughs to solving problems.

To add to this understanding of the models and techniques for building community in personal relationships, neighborhoods and cities, and workplaces, Shaffer and Anundsen (1993) recommend developing the following skills and processes:

- *Understanding the Natural Phases of Community Building:* excitement and possibility; autonomy and vying for power; stability and settling into roles and responsibilities; synergy and allowing self and group to unfold; and transforming, expanding, segmenting, or disbanding
- *Integration of Strengths and Weaknesses of Members:* resolving personal, interpersonal, and business issues; making discussion safe by allowing negative feelings and resentment to be expressed; listening for the concerns of disruptive members; sharing responsibility; asking for help; planning for worse-case scenarios, yet holding positive vision; and setting aside time for renewal
- *Communicating in Meetings, Small Groups, and One to One:* taking responsibility for sharing one's feelings; communicating directly with persons involved in an issue; proactive listening; providing continual feedback; respecting and validating others feelings; using humor softly; and recognizing the importance of silence

- *Making Decisions and Governing:* getting to consensus; noticing if information is missing; engaging all members in discussion; stating and restating positions; finding/developing options and alternatives; actively seeking out differences, questions, and irreverences; helping the group to decide
- *Working with Conflict:* making conflict a healthy part of community building and resolving conflicts through providing safe places to talk, enough time, speaking truthfully, and being willing to change (pp. 207-303)

Changing Nature and Challenges of Some Other Dimensions of Life

Beyond the central lifeplaces of work, family, and community, there are many overriding ways in which the context of life is changing on entering the 21st century. Among these are the changes occurring in organizations, learning systems, communications and media, social accountability, health care, and criminal culture. Each of these changes impact roles and responsibilities in work, family, and community and, in turn, the learning outcomes expected of TYIs.

Changing Nature of Organizations

We know instinctively that the world is opening in different ways and that it is volatile (Tapscott & Caston, 1993). Walls to competition are disappearing; an era shift is also occurring in organizations. The new organization or enterprise is dynamic and can respond quickly to changing market conditions. It is flatter and team oriented (p. xii). This is due to changes in technology from computing architectures of personal-to-workgroup computing, from system islands to integrated systems, from internal to inter-enterprise computing—linked with suppliers, distribution channels, and consumers—and workgroup commuting (p. xii).

The Second Era of Technology (Tapscott & Caston, 1993) is open and networked, modular and dynamic, and based on interchangeable parts. It distributes intelligence and decisionmaking to user networks made possible because of common standards to integrate data, text, voice, and image information—the backbone of team-oriented computer work groups. The integrated technology blurs walls between enterprises, enabling the recasting of external relationships. This technology is affordable and achievable for all organizations (p. xii). The business environment and other work environments will be driven by increasing productivity of the knowledge worker, quality improvements, responsiveness to rapidly changing markets, reduction of time from production to delivery, removal of government barriers and regulations, mergers and alliances, outsourcing and partnering, and social and environmental responsibility (pp. 6-9).

Changes in Learning

Learning in the 21st century will be "trans-disciplinary" (Gibbons et al., 1994). The emphasis will be on group problem solving. Through problem solving, learning and knowledge are generated and sustained in the application. The new learning will develop its own distinct theoretical structures, research methods, and modes of practice. The diffusion of results of 21st century learning will be accomplished in the course of participation. Once a specific problem is solved, the practitioner will move on to new problems. The knowledge will be disseminated and contained in the learners' communication network. The learning/knowledge may not be formally disseminated. Learning will be dynamic; exactly how it will be used and how it will be developed are difficult to predict (pp. 5-7).

There will be an increase in the number of sites where knowledge can be created—no longer just in colleges and universities, but in non-university institutes, research centers, government agencies, industrial laboratories, think-tanks, and consultant groups as well (Gibbons et al., 1994, p. 6). The sites will link with one another in a variety of ways—electronically, organizationally, socially, informally—through functioning networks. Educational institutions will be in the linkage, but may not control the participation and product.

Changing Communications and Media

In the Post World War II, Second Wave, Second Industrial Revolution, and First Technological Era, the mass media standardized the message. Even though there were multiple messages in the environment from school, church, friends, and community, there was a powerful mass standardizing message from the broadcast radio, television, and film industries. Mass media had the power to turn its image into an icon, to implant a message into the memories of millions of people at once (Toffler, 1980, p. 167). This created a universal image file for the culture to draw upon. This, in turn, produced the standardization of behavior or, at least, public behavior of the American society. Mass media followed along with the Second Revolution of mass production and mass consumption.

In the 1990s, mass media is being forced to share access and influence with other networks, vendors, and forms of communication. The "de-massified" communication includes publications, newspapers, magazines, newsletters, radio stations, cable and satellite television, CD-ROMs, Internet, and video and audiotapes. The audience is targeted and diverse.

De-massified media has had an effect on public opinion. The Third Wave (Toffler, 1980) culture is diverse. The de-massified communication facilitates and accelerates diverse images. The net effect is less consensus at all levels on issues and goals. The individual must contend with "blips" or information shards. It is for the individual to sum up and to organize the shards into a whole (p. 165). The individual must also select and manage input to avoid being overwhelmed.

The Third Wave world requires that individuals invent the reality by which they live (Toffler, 1980). For a time, it will be possible to live in a Second Wave culture by controlling the selection of information, entertainment, news broadcasts, and publications and through retention of a position or work begun in an earlier decade. Because society is both diverse and differentiated, the amount and types of information are increasing exponentially. The computer is the vehicle that manages the info-sphere of multiple strata of information (p. 179). The information organizer of the Second Wave was the file cabinet. It managed systematic records. It was linear. The Third Wave is a matrix. The computer is the information organizer of the Third Wave. It can record and interrelate in "fine grained detail."

Changing Social Accountability

The nature of social accountability will also change as we enter the 21st century. New sectors of the economy will arise, diversity will take on a new form, and wellness and crime will present new challenges.

The 21st century economy will be comprised of the market sector, government sector, and a third sector—community builders (Rifkin, 1995). Participants in the third sector work in nonprofit organizations. Volunteer participation is a strong theme in the literature on social accountability. The volunteers may be managed by paid staff. A significant work of the 21st century will be building community.

The literature reviewed for this section reframed the race-specific diversity issues of the 1980s and early 1990s into a general discussion of the collapse of consensus and a democracy of minorities (Toffler & Toffler, 1994). In *Creating a New Civilization*, the Tofflers recommend institutional changes to recognize diversity beginning with "semi-direct democracy" (p. 96), a shift from representation to self-representation.

Diversity is the context of the turn of the 21st century. The advantage of being a majority will diminish. Individuals, in relationship with others, must plan for themselves. There will not be the clear path to success or security provided by institutions or lifetime employers (p. 96).

Changing Health Care

A theme identified by the National Design Group as emerging in the new century is public health—a return to an earlier concern for the spread of disease. This concern is different from the concern for adequate health care services for all Americans. To be able to address the concern will require immunization or the control of communicable diseases. However, the health of Americans adversely affected due to poverty, unemployment, job changes, and lack of health care benefits is an ongoing challenge.

Changing Criminal Culture

Embedded in the discussion of work, family, and community are concerns for health and safety. Rifkin (1995) refers to a criminal culture that indicates more than youthful misdirection, but an alternative economy based on criminal activity, often the buying and selling of drugs. Banach and Lorenzo (1993) note in *Toward a New Model for Thinking and Planning*, "over 900 addicted babies are born every day" (p. 12). It will cost $40,000 per child to prepare them for kindergarten (p. 12).

The cost of crime is great for American inner-city youth. Homicide by firearms is the leading cause of death among 15- to 19-year-old African-American males and third for Caucasian males (p. 12). The August 13, 1995, *New York Times* (Butterfield, 1995) reported that homicides for the first six months of 1995 were down in most major cities. This is due in part to the incarceration of 1.5 million persons. The incarcerated are in the 25 and older age group. The article quotes criminologist, Alfred Blumstein from Carnegie Mellon University, as attributing the reduction in crime by this age group to the fact that a large number of those age 25 and older are in prison. Persons who commit crimes and persons who are incarcerated are a challenge that has been faced at other times in this country. Blumstein notes that the homicide rate (those who commit murders) in 1993 was 10 in 100,000; today, it is 9.9 in 100,000, but had been as high as 10.9 in 100,000 in 1991. What is of grave concern is that when the statistics are separated out for teenagers, between 14-17, the rate is 18.6 per 100,000 teenagers, up from 6.2 per 100,000 in 1984. Teenagers are not being deterred from crime by the incarceration of those a few years older than themselves. The number of teenagers is expected to grow by 15% between 1995 and 2005, which could cause another rise in the homicide rate.

Summary

Clearly this brief review of the challenges and opportunities of work, family, and community life on entering the 21st century has profound implications for education at all levels and throughout a person's lifetime. The changes now with us and before us in these three realms of life will make challenging demands on educational institutions.

First, work, family, and community roles and responsibilities interact and overlap in significant ways. Success in family life contributes to success in work life and vice versa. Without successful community life, neither a successful family nor work life is very possible. The learning outcomes of educational institutions must seriously and effectively address all three of these domains of life and do so in combination.

Second, the challenges and opportunities of work, family, and community life require attention to many of the same problems and needed areas of competence. For example, all three domains of life require skills at communications, solving problems, making decisions, building and sustaining relationships, and continued learning. The learning outcomes of educational institutions must capture the general as well as the specific skills needed across all three domains of life.

New Designs for Learning Outcomes

Keeping closely in mind the design specifications for learning outcomes for the TYIs presented earlier in this section and the results of the review of literature on the changing nature of work, family, and community life and their implications for education, NDTYI first took an initiative to develop an illustrative set of learning outcomes. The outcomes moved through several rounds of discussion and modification by the NDTYI Work Group, National Design Group, and project staff. The resulting set of learning outcomes is shown as Exhibit 5.

Exhibit 5

New Designs for Learning Outcomes Developed by NDTYI Project

Learners will leave the two-year institution with added general and specialized competence in the context of work, family, and community responsibility in order to do the following:

- *Function in a diffuse and complex environment:* without external direction or plan, with concurrent multiple tasks and issues, sometimes with a high degree of ambiguity, sometimes with prescribed direction or processes; bring a semblance of coherence and with commitment to this task
- *Work independently and collaboratively:* to lead and follow, to work in a group, and with people diverse from themselves
- *Make decisions:* with flexibility, with speed when necessary, with reflection, and with wisdom to switch and pursue other directions when necessary
- *Use information:* identify, collect, and organize narratives, numbers, and nonverbal information
- *Communicate ideas:* interpersonally, nonverbally, in writing, in large and small groups, orally, and using varying media
- *Use technology:* to learn and to work
- *Solve problems and take advantage of opportunities:* by formulating desired states of affairs; critically evaluating the present state of affairs; identifying and describing problems and opportunities worthy of action; selecting, understanding, and applying information; making refinements and combinations; generating options; and brokering and linking resources, information, and experiences
- *Produce results in an area of endeavor:* goods and services, tangible and intangible, and command of needed specialized knowledge and skills
- *Manage one's own continuous learning:* develop personal plans and learning to learn

During the NDTYI project time line, staff were also on the watch for existing institutions that had developed and were using a set of learning outcomes that were responsive to the design specifications for learning outcomes and the literature review on the changing nature of work, family, and community life. As the project drew to a close and the presentation of a preliminary report was invited by an international conference on learning technology and the learning environment in Australia, a set of learning outcomes was identified that had been in use for several years (and recently updated) by the Torrens Valley Institute of Technical and Further Education (TAFE) in South Australia. Their set of learning outcomes is shown in Exhibit 6.

Exhibit 6

New Designs for Learning Outcomes Used by the Torrens Valley Institute of TAFE in South Australia

- *Collecting, analysing, and organizing information:* locate information, sift, sort, and select what is required and then present it in a useful way
- *Planning and organizing activities:* make good use of time and resources and learning to sort out what is important and needs to be done now
- *Using mathematical ideas and techniques:* dealing with data and figures, complex calculations, and estimations and approximations
- *Using technology:* combining physical and sensory skills to operate equipment and understanding of scientific and technological principles
- *Communicating ideas and information:* communicating with others using a range of spoken, written, graphic, and other nonverbal means of expression
- *Working with others and in teams:* responding to the needs of others and working effectively as a member of a team in achieving shared goals
- *Solving problems:* identifying problems and using creative thinking to achieve an outcome that is the most desirable solution for oneself and others in practical situations
- *Using and understanding of culture:* building an awareness of effective communications and an understanding of people's customs, beliefs, behaviors, ways of living, values, social institutions, and styles of communications and applying this understanding to real-life situations

Summary

The purpose of this section was to extend the design-down process for the TYI from learning context and signature to learning outcomes. Learning outcomes communicate the aims of the institution in terms of how it promises to add value through the institution's work. The outcomes should speak to and capture the full array of educational programs and activities undertaken by the institution. After drawing implications from learning context and learning signature for the learning outcomes, a series of concepts important to discussion and thinking about outcomes was advanced. These concepts included addressing a wide range of interests, wide range of lifeplaces, wide range of talent and human development, future orientation, change agents, excellence, consensus, and expedience. Using these concepts, a set of design specifications was advanced to guide the review/selection/development of learning outcomes for an educational institution.

One of the design specifications was that the learning outcomes should address the changing nature of work, family, and community life roles and responsibilities. With this in mind, the section includes a brief review of the major changes being faced in the United States in these realms of life and their implications for education. Using this information and giving due consideration to all of the other design specifications for learning outcomes, two sets of learning outcomes were presented to illustrate new designs for learning outcomes. One set was developed as a part of the NDTYI project, with involvement of the NDTYI Work Group and National Design Group. The other set was selected from existing practice and represents the learning outcomes used by a college of technical and further education in South Australia.

In the end, the learning outcomes for a particular institution will have to be worked out by that institution. The design specifications and illustrative new designs for learning outcomes proposed in this report should be helpful in that process.

CHAPTER FIVE:
LEARNING PROCESS*

The learning process needs to be designed to respond to the learning context of a TYI and its learning signature and learning outcomes. The prior selection of learning outcomes should play a central role in designing the institution's learning process. In short, the learning process must be sufficiently powerful to effectively and efficiently produce the desired outcomes. The learning process is traditionally described in terms of curriculum (content), instruction (method), and assessment (evaluation). We are recommending that design of the learning process for NDTYI move from these concepts and artificial divisions to others that are more integrated and better suited to the design specifications for learning outcomes and the illustrations of new designs for learning outcomes presented in the previous section. The design specifications for the learning process will, in turn, provide the basis for design specifications for the organization of learning described in the next section.

Purpose of the Learning Process

The element of learning process follows on the design elements of learning context, learning signature, and learning outcomes. The design of the learning process brings attention to the pedagogical challenge of assuring the achievement of the promised learning outcomes with the learning context and learning signature kept firmly in mind. What learning experiences (e.g., events, episodes, or activities) will result in effectively and efficiently advancing the learning outcomes with diverse learners? What are the desired features of the pedagogy?

Process of Developing New Designs for the Learning Process

The process of developing the design specifications for the learning process in NDTYI and selecting illustrative new designs for the learning process involved review of related research and best practices in view of the design specifications for learning outcomes and the illustrative sets of learning outcomes we had in mind. We also held a focus group interview with administrative staff at Red Rocks Community College in Colorado to provide insights to designing an appropriate learning process. The results of these activities were shared with the National Design Group, and the discussion and follow-up staff work led to the design specifications shown later in this section.

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* The part of this section focusing on "Key Concepts Regarding the Learning Process" and the initial draft of Design Specifications for Learning Process were written by William Ammentorp. The remaining sections and overall editing was done by George Copa.

Focus Group Findings

The focus group interview with attention to learning process occurred at Red Rocks Community College, located in a suburb of Denver, Colorado. The interview involved several of the administrative staff at the college. In response to the key question about the characteristics of the learning process where learning was really felt to be occurring in the college, the interview participants described the following desired characteristics:

- The learning process was student-centered.
- The learning process involved working on real projects drawn from and valued by the surrounding community.
- The instructors were viewed as partners in the learning. They facilitated and also learned.
- The learning process had a lot of energy and excitement, and was very alive.
- The learning process provided many opportunities for review and reflection on what was being experienced.
- The learning process was characterized as a discovery experience with no one person having all the answers.
- There was considerable pre-preparation by both students and instructors for the learning experience.
- The learning experience was issue-oriented, integrating academic and vocational studies.

- The learning experience contributed to developing a "high-performance" community—one with a better state of social and economic affairs and with more competence in dealing with its needs and concerns.

In order to develop a learning process with the above characteristics, the interview participants suggested the following needed changes in the learning process:

- Focusing more on delivering just-in-time learning, where the learning process is flexible and the environment supportive of developing learning plans "right on the spot."
- Acting as if all those involved in the learning process (e.g., students, teachers, administrators, support staff, mentors) are learners and will have an opportunity and need to learn in the learning process.
- Figuring out ways in which changes in the learning process will have "ripple effects" throughout the college and supporting community. To be fully successful in getting needed changes in the learning process, the whole institution and its supporting community will have to change.
- Increasing access to high quality learning resources. The learning process envisioned requires that there be significant improvements in access to needed learning resources to support learning anytime, anyplace, and for any competence.

National Design Group Discussions

The National Design Group had access to an early draft of this section (with its review of literature), the results of the focus group, and the benefits of their discussion on learning context, signature, and outcomes as they worked through their ideas on learning process. Some of the points made regarding learning process were as follows:

- There is a need to consider how the occupational and academic studies mesh. There is a fundamental disconnect for these areas in the present learning process. Each needs to be interwoven with the other, even in the context of having to educate fast.
- The learning process needs to be transformed to be meaningful and useful for students' progress.

- Creating separate and distinct learning processes in 1,200 community colleges (across the country) is costly and does not permit bold and visionary changes. Through collaboration and pooling of resources, we can move from the "grown locally" perspective to a more global perspective.

- Students should leave the college with added competencies, not necessarily degrees.

- The TYI makes a contribution to the community by bringing community issues into the classroom for joint problem-solving.

- We need to find ways to bring out and use the talents that people have. We must value students' time and experiences and address the real issues facing students.

- There are a large number of students who would not be at the institution if they did not find it a nurturing environment. There is a difference between providing student services and creating an environment for students that makes them comfortable in the institution. However, there are also some students who do not need nurturing. For example, they just need to take calculus.

- The contextual realities that affect design of the learning process include recognizing and being willing to compete with other institutions, organizations, and agencies; learning to collaborate with the competition in order to access important resources (e.g., with Jones Cable, Disney); making use of part-time faculty; dealing with an increase in the number of high school graduates; responding to changing demographics, culture, and economy; working with government systems that support turf issues in higher education; and keeping up with high-performance workplaces outside the institution.

- Faculty will have to work in teams, including secretarial staff as part of the team. Faculty need to be guides or navigators, yet they are often isolated from the real world. Tenure should allow faculty to be on the forefront of thinking, and yet faculty are using tenure to save their jobs.

- Knowledge will no longer be held/kept by institutions of higher education with the advances in information technology. The half-life of knowledge is getting much shorter; we have to begin thinking about what it means to be knowledgeable in a different way.

- Information technology may allow college campuses to be increasingly bypassed in the learning process.
- People learn in many different ways.
- The key is to align curriculum, instruction, and assessment so that assessment is built into the learning process. For example, architecture is an area of study where curriculum and assessment are aligned; the student is assessed on an ongoing basis.
- We continue to come back to the need for teamwork on the job, high-performance work teams and learning teams. Socially this is a big challenge for faculty who believe that learning is individual.
- The college needs to reflect a high-performance learning organization—linked to standards or outcomes. This means a focus on quality, contextualized in a real work base, having assessment embedded in the instruction, viewing student as worker and teacher as coach, and emphasizing collaborative problem solving.
- People need to be engaged in the learning process. The whole process has to be designed so that people will participate actively.

The learning process has to build on the skills and competencies of each learner and help develop self-esteem. Many of the people we see do not believe that they can succeed in higher education.

In addition to these statements of intent for the learning process, the National Design Group subsequently reviewed a draft statement of the proposed design specification for the learning process. Each statement was discussed, and many revisions were made. The National Design Group also suggested illustrative examples of learning processes that they were familiar with that met many of the design specifications for the learning process. Two of these examples are included in a later part of this section entitled "New Designs for the Learning Process."

Connecting the Learning Process to Previous Elements of Design Process

As noted previously, if a coherent and consistent learning experience is to follow, the design-down process should flow from the design specifications for previous elements in the design process. Care has already been taken to align the learning outcomes with learning context and learning signature. The emphasis here will be on relating learning process to each of the learning outcome specifications as follows:

- *Be Consistent with the Design Criteria and Signature:* As the learning outcomes were consistent with the design criteria and signature, the learning process specifications need to follow from the learning outcome specifications. The design criteria for the learning context of TYIs focused on the characteristics of being imaginative, directive, responsive, collaborative, accountable, and having resources.

  Each characteristic has implications for the desired features of the learning process. For example, being imaginative in the learning process suggests thinking in fresh ways about pedagogy, beyond the typical approaches. Being directive suggests that the learning process should be in keeping with an overall direction selected for an institution, which might be described in terms of particular characteristics of learners or the learning experience. Being responsive makes some major demands on the learning process if it is to match the needs of learners in terms of time, cost, readiness, location, and preferred learning approach. Similar consideration was given to the design criteria of being collaborative, accountable, and resourced.

  In addition, the learning process needs to amplify the design specifications for the learning signature. Important considerations for the learning process resulting from attention to the learning signature included designing the learning process so that it created an accurate image of the institution in view of its preferred identity. The learning process must resonate with the institution's unique character; give coherence to all components of the institution; and result in shared ownership of the learning process by all institutional staff, students, and supporters.

- *Survive Tests from Key Internal and External Stakeholders for the Educational Institutions:* The learning process needs to make sense and be effective and feasible from the view of multiple stakeholders. Students will judge the merits of the learning process working for them, employers will decide if the learning process will produce the competence they need in the workplace, and funders will decide if the process is worth paying for in view of outcomes and other options for the learning process.

- *Focus on All Customers of the Educational Institution:* The learning process has to work (be effective) for all of the users of the institution, suggesting the need for multiple approaches to reaching learning outcomes.

- *Address Key Lifeplaces—Work, Family, and Community:* The learning process must provide learning experiences that relate to major, common lifeplaces—work, family, and community. Each of these lifeplaces makes demands on the pedagogy of the learning process.

- *Represent Balanced Attention to All Areas of Human Talent and Development:* The learning process must be comprehensive and balanced in its attention to human talent and development. Focus should be not merely on the social or kinesthetic, but on all areas of intellectual growth needed in workplaces, homes, and communities.

- *Directed Toward Changing Context and Challenges of Life Upon Entering the 21st Century:* The pedagogy making up the learning process must be tuned to constant change, not just be up-to-date at a point in time but be keeping up-to-date continuously. This context will call for a level of responsiveness and flexibility not usually found in higher education.

- *Prepares Learners To Be Active-Change Agents in Improving the Future State of Affairs in Society:* The state of affairs in workplaces, families, and communities on entering the 21st century has much room for improvement. The learning process must address the role and competence of the change agent as much or more than merely adapting to the current situation in these lifeplaces.

- *Involves Reaching for a Meaning of Educational Excellence that Provides Challenges and Opportunities:* The changing context noted above will call for rethinking what is meant by educational excellence, and these new meanings of excellence must be embraced and be striven for by the learning process.

- *Represents Goals for All Learners in TYIs:* There is much inequity in access, opportunity, and outcome of higher education in relation to individual characteristics such as age, gender, socioeconomic status, and ethnicity and culture. The learning process will need significant revision if it is to meet the challenge of equity and comprehensiveness in reaching the promised learning outcomes.

- *Can Be Conveyed Clearly in a Short Amount of Time and Written Space:* As with the design specifications for learning outcomes, those for learning process must also be parsimonious if they are to have the focus and priority needed for any hope of implementation.

Together, the implications of learning outcomes for learning process suggest a formidable challenge to designing the learning process for an effective TYI. Major changes in the specifications for the learning process, in contrast to what is typical today, should be expected and will need to be firmly supported if there is to be integrity to NDTYI.

Key Concepts Regarding the Learning Process

Learning processes now in place in TYIs are largely discipline-driven. They are drawn from a compartmentalized view of knowledge, which holds that each set of ideas and evidence is unique. History has its own specialized structure, and only historians know how it is to be learned. The masters of the disciplines have raised walls at the boundaries of their domains and created political systems to ensure autonomy and survival. For the student, the result is a puzzling array of options where special languages rule. Furthermore, students have no way of assessing the costs and benefits associated with the choices they face.

As knowledge enters an era of explosive growth, it also begins to manifest increasing complexity. Old disciplinary boundaries can no longer contain a knowledge dynamic that transcends the historical experience of the academy. This means that students can no longer sit at the feet of master teachers who know all of the destinations on the roadmap of their subject. Clearly, a new learning process is called for—one that is free from disciplinary constraints and open to the informed choice of students.

It is the thesis of this section that learning must shift from instruction of students to the construction of meaning by the learner. In effect, teaching becomes a matter of facilitation of student choice that is informed by direct interaction with a dynamic knowledge base. Students, too, must change in response to the knowledge explosion. They cannot survive—let alone prosper—unless they take responsibility for their learning experiences and hone the skills that will make them lifelong learners (Seidman & Ramsey, 1996).

The argument we offer in support of this thesis is one that deviates from the traditional perspectives on teaching and learning. Instead, it is drawn heavily on individual life in learning organizations and the skills needed to be involved in ever-changing institutions and communities. We take the position that it is the cognitive sciences and the sociology of knowledge in learning organizations that, together, offer the insights needed to reform the learning processes in TYIs (Thomas, Johnson, & Anderson, 1992).

At the same time, there are important issues and developments that affect the future of postsecondary education. Rapid changes in knowledge, work, and social life require a "just in time" response from educational institutions—responses which must conform to the concern for quality that permeates organizational thought. Global communities require learning on a similar scale; parochial ideas and practices are already obsolete and must give way to international perspectives. And, the learning process of the future will surely be positioned between diverse demands and limited resources.

From Instruction to Construction

As we begin our journey in search of new learning processes, it is important to review our starting point. One way of putting it is that we are beginning from a static and settled view of knowledge and learning and going to one that is ever more dynamic. To understand our journey, we need to see clearly how our institutions and our own experiences determine the pathways we might select.

There can be little disagreement with the observation that our colleges are organized around a static perspective on both knowledge and the student. Every new college we develop and, unfortunately, most new and revised programs of study, has the familiar academic landscape of the subject matters. The very foundations of instruction can be found in the relationship between knowledge and the academy. Historically, the academy has been the sole generator of knowledge for all practical purposes, the owner of the subject matters. In this context, the professor is the necessary mentor of those who want access to knowledge. He or she has both the power and the skills needed to instruct.

There is much of the monastic metaphor at work in the traditional college. There are high priests in each subject matter who are served by earnest monks. They, in turn, are the instructors of the novices who are called to the intellectual apostolate. And, all too often, what these people do is not of the world. Rather, it is disconnected from the mundane world of work, family, and community.

Like the church, there are canon laws that make higher education every bit as resistant to change. The Carnegie Unit, student credit hours, and full-time equivalents are permanent features of the academy to which any new program or approach must conform. When one considers the convoluted bureaucracies that have grown up around the subject matters, it is little wonder that higher education is characterized by tradition and not innovation.

The traditional academy is now threatened by the knowledge explosion (Sterman, 1985). As more and more highly trained people work outside the academy, there are new sources of knowledge—sources that are much more closely linked to the world of practice. Corporations, human service agencies, and governments are all populated by persons with the capacity to produce useful knowledge and the resources to communicate ideas outside the academy. Furthermore, the sources of support for its traditional work have eroded to the point where whole disciplines are without the resources needed to be vital players in the business of knowledge generation (Sommer, 1995).

The shift in knowledge production and distribution away from the academy has been documented by several writers (Crain, 1972; Dordick & Wang, 1993; Drucker, 1993; McCain, 1990; Mulkay, 1991; Nonaka & Takeuchi, 1995; Tapscott & Caston, 1993). The "invisible colleges" identified by Crane (1972) have been found to be extended beyond the boundaries of the academy (McCain, 1990). These "colleges" are constantly changing groups of knowledge workers who follow and contribute to the development of subject matters according to their interests (Mulkay, 1991). All of this has been facilitated by two factors: the exponential growth of telecommunications (Dordick & Wang, 1993; Tapscott & Caston, 1993) and the increased value of knowledge in the marketplace (Drucker, 1993).

There is a growing "electronic community," which opens access to knowledge and allows increasing numbers of interested parties to exchange their ideas on issues (Ammentorp, 1993). Construction is precisely what goes on in these communities. Knowledge is produced and valued for its contribution to economic and social development. In sum,

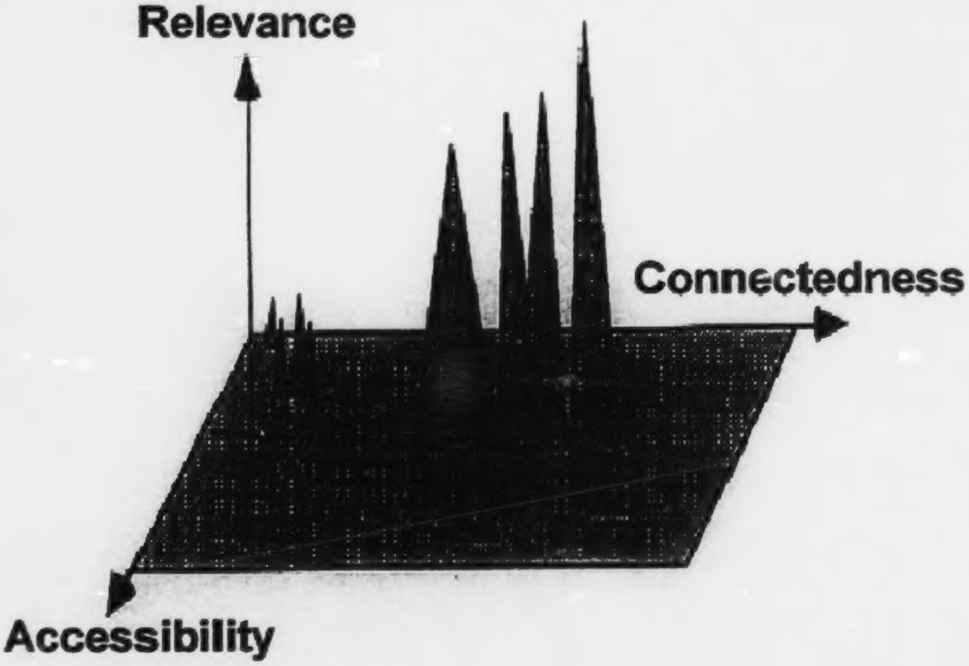
> (the new mode of) . . . knowledge production is characterized by closer interaction between scientific, technological, and industrial modes of knowledge production, by the weakening of disciplinary and institutional boundaries, by the emergence of more or less transient clusters of experts, often grouped around large project[s] of various kinds, and by broadening of the criteria of quality control and by enhanced social accountability. (Gibbons et al., 1994, p. 68)

The traditional academy is now but a player in a larger arena of knowledge production and use—an arena in which both teacher and student are obliged to construct their own perspectives.

Construction and Information

We can visualize construction in action by thinking of students and teachers wandering on an "infoscape" like that shown in Figure 8 (Roca, Ammentorp, & Morgan, 1995). Each dimension of the "infoscape" reflects a critical attribute of knowledge as seen from the user's point of view. Accessibility refers to the extent to which the "common speech" of users can lead them to information of interest to them. Connectedness speaks of links among clusters of information, which enables users to construct knowledge in appropriate configurations. And relevance is a measure of the value of information to a community of users. As these measures are applied to a particular knowledge base, the result is a grouping of media in "islands" on the landscape. It is the task of teacher and learner to navigate this landscape to discover the "peaks of relevance." When they ascend a particular peak, they have the capacity to add to relevance, to make that collection of knowledge even more valuable through their own constructions.

Figure 8
Topological Model of Infoscape



Accessing knowledge continues to be dependent upon understanding the language of those who create and store information. In the past, this was largely in the hands of librarians and authors. Today, it is the electronic network and its many users that define the common speech of the subject matters. Each Internet server creates its own roadmap to the Infoscape, and those drawn to that site add to accessibility by refining the ways information is addressed (Heylighen, 1995).

Knowledge is created when information is connected, as we find in the AAI (All Aspects of Industry) movement (Bailey, Koppel, & Waldinger, 1994). We see this clearly in electronic databases where "pointers" create networks of connected information, and the user can navigate according to her or his interests.

Relevance comes about through user experience in discovering knowledge that addresses important problems. In the Infoscape, knowledge is not simple propositions narrowly applied to single fields. Instead, it is made up of a variety of media that can be brought to bear on the issue at hand. As information media are increasingly enriched, they provide for the features of the Infoscape: "Multimedia technologies can provide the three-dimensional landscape of mountains instead of the two-dimensional flatland of current presentations" (Anderson, 1992, p. 138).

Navigating the Infoscape

Finding one's way around the Infoscape is a challenging assignment. To wander without a guide, or at least a map, runs the risk of missing the relevant "peaks" needed to be functional in work, family, and community settings. Building a roadmap to the Infoscape is what the learning process is about. Figure 9 shows the subsystems that constitute the learning process in TYIs.

Figure 9
Learning Process Subsystem

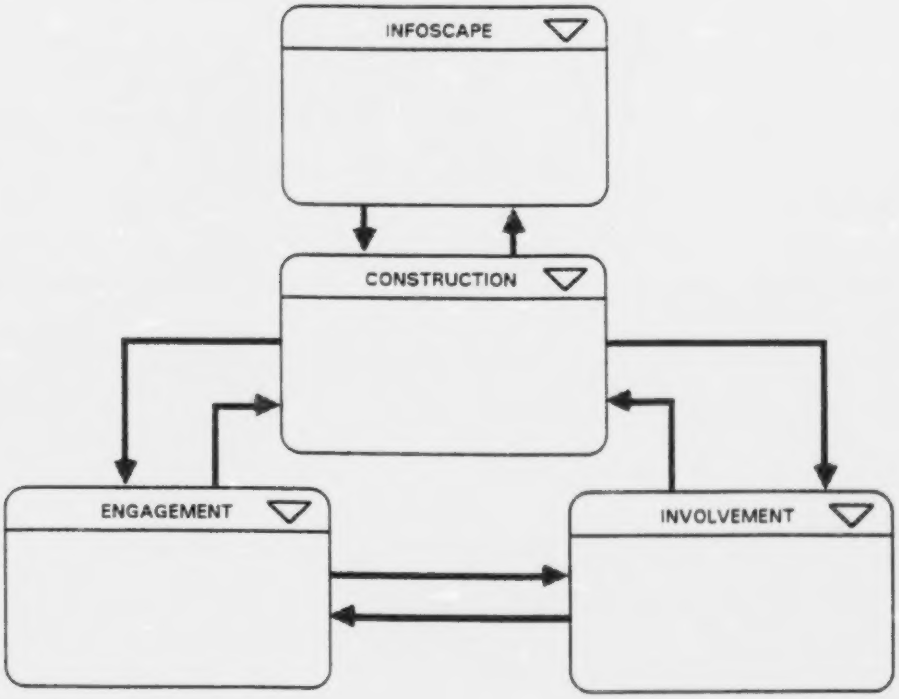


Figure 9 is the minimal collection of systems required to treat the totality of the learning process. We cannot, for instance, proceed without a perspective on the state of knowledge—that is, how it is accessed and developed. In fact, we will need a thorough understanding of the Infoscape. Similarly, our constructivist approach demands an explication of constructive behaviors in learning settings. And such behaviors do not take place without the engagement and involvement of learners. To make the matter even more complex, we must also pay attention to the interactions among these systems. For it is in the "cracks" between systems where creative management can come into its own, and new designs can be tested.

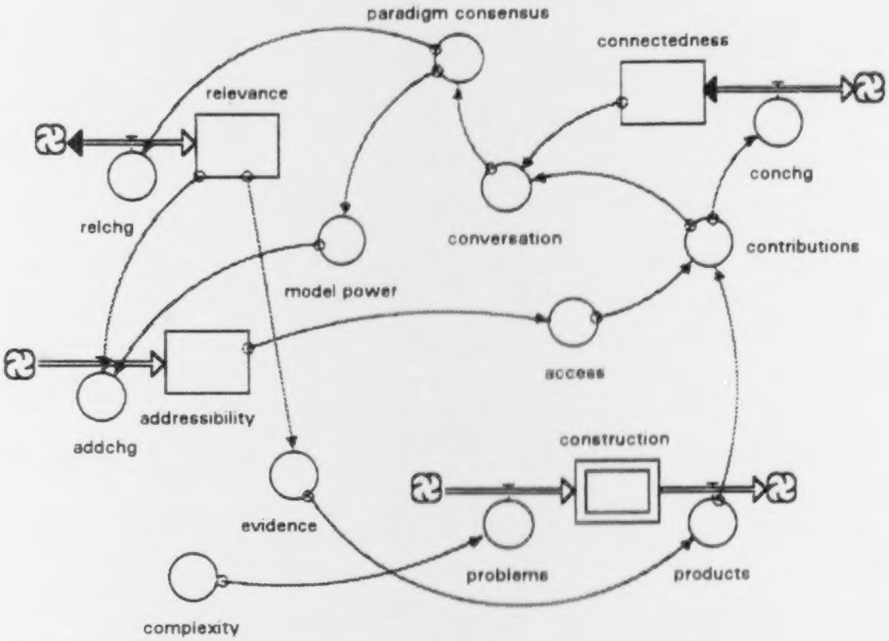
Each box in Figure 9 contains a model, which details the dynamics of the learning process. In the paragraphs below, each model is developed to show how they are linked in typical educational settings.

Paradigms and Models

If we de-emphasize instruction in favor of construction, what is it that students "construct"? How do they build a view of knowledge that can accommodate rapid change? And, how do they keep track of information that is of value to them? These questions are at the core of a learning process that emphasizes the development of paradigms and models by each student; they provide unified perspectives that can themselves evolve in pace with changes in what is known and how it is put to use (Copa, 1992; Richardson, Andersen, Maxwell, & Stewart, 1995).

Paradigms and models are critically important to an information-driven world. They determine how information becomes knowledge and how individuals navigate the Infoscape. In fact, we can use a model of the Infoscape to illustrate this point.

Figure 10
Dynamic Infoscape Model


paradigm consensus
connectedness
relevance
relchg
conchg
conversation
contributions
model power
access
addchg
addressibility
construction
evidence
problems
products
complexity

In this model, the driving force comes from the environment as complexity. Work, family, and community are all increasingly complex, and neither individuals nor organizations can cope with their demands without access to equally complex information (Vacas, 1990).

The construction of new knowledge (products) has two principal resultants: (1) contributions and (2) model power. These variables serve to link students, teachers, and knowledge workers into the network of information. Contributions add to the knowledge base and to the connectedness of information. In this way, information becomes knowledge and can be applied to problem-solving and design activities. Contributions are embedded in conversation as people talk about knowledge and put it to use. Because knowledge is becoming more and more "social," it is increasingly cast in what Zadeh

(1987) calls "commonsense" or linguistic forms. Knowledge is framed by the concepts and heuristics of everyday work, family, and community life and shaped by what we might label as an "ecology of complexity."

However, knowledge is not merely conversation. Those who produce and use knowledge take on over-arching perspectives or paradigms, which enable them to visualize knowledge of interest to them and to discourse about it. Such paradigms are what Kuhn (1970) had in mind; they are ways of putting knowledge in order so that it can facilitate problem solving.

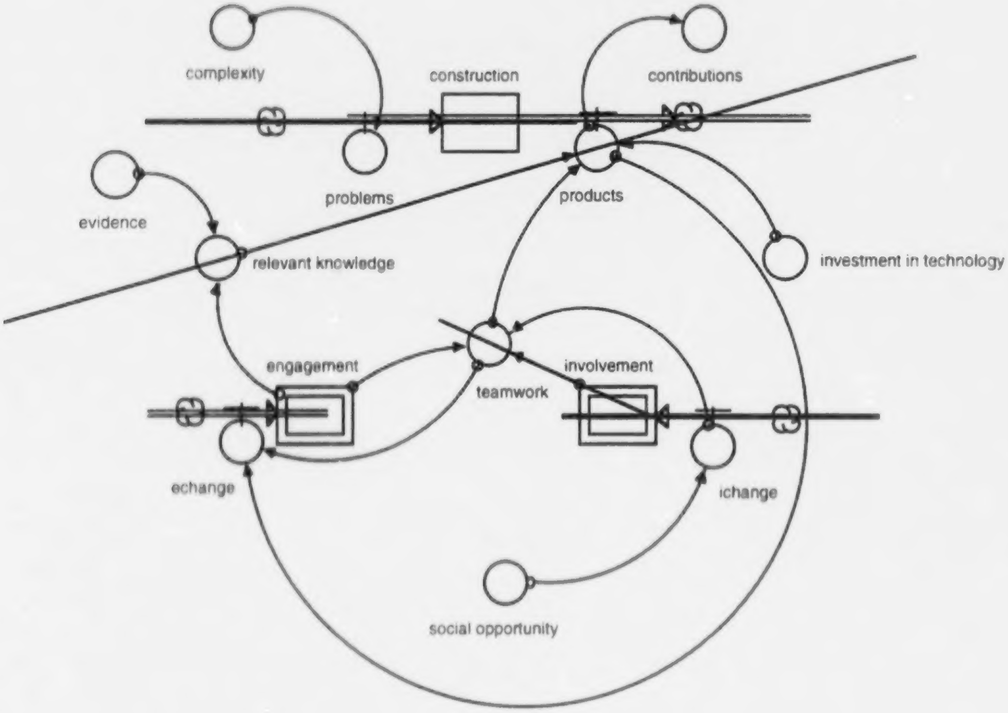
The Dynamics of Construction

Learning in an Infoscape dominated by paradigms and models is a matter of construction, engagement, and involvement. Construction means that students and teachers collaborate to produce knowledge as well as tangible products of knowledge. Engagement speaks to the learner's relationship to knowledge and the processes whereby it is developed and acquired. Involvement deals with the social aspects of knowledge use. Together, these attributes define a learning process quite different from historical experience and the traditions of today.

The idea of construction is probably best captured by Harel and Papert (1993) when he says, ". . . (construction) . . . happens in a context where the learner is consciously engaged in constructing a public entity, whether it's a sand castle or a theory of the universe" (p. 1). The key ideas in this definition are engagement (the learner is actively involved in working with knowledge and not a passive receptor of information) and product (there is a result to learning that can be shared with others) (Bragg, Hamm, & Trinkle, 1995).

We now have three dimensions that define the learning process: (1) construction, (2) engagement, and (3) involvement. Let's look at these to see how they might shape the activities of teachers and students in postsecondary institutions (see Figure 11).

Figure 11
The Dynamics of Construction


complexity
construction
contributions
problems
products
evidence
relevant knowledge
investment in technology
engagement
involvement
teamwork
echange
ichange
social opportunity

Through construction, learners acquire expertise in a field of study. This is a matter of solving the problems posed by complexity in work, family, and community. As problems are transformed into products, learners reduce their uncertainties concerning major issues and tasks. This places the learner in the sort of environment envisioned by Newell and Simon (1972). From their perspective, learning is a matter of constructing an internal representation of the task environment faced by the student. Construction, however, goes a step beyond internalization of a task or problem. It generally involves creation of specific products that represent the learner's capacity to integrate the knowledge and skills appropriate to the task at hand. Thus, we can see the results of learning in the "public entities" produced by students.

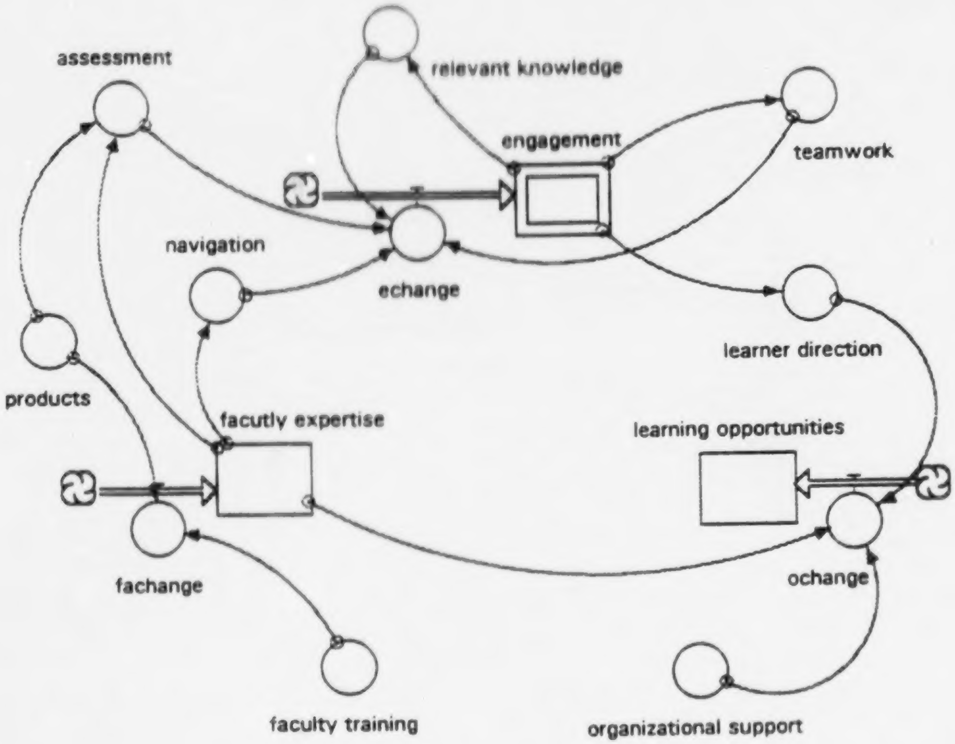
The central place of problem solving in this view of the learning process is especially important for TYI educators. The vast range of backgrounds and objectives of learners puts severe limitations on the utility of traditional pedagogy. There is literally no way that pre-set content or experiences can guarantee students access to the knowledge and skills required by their personal circumstances and future plans. They are creatures of their task environments, where their capacity to function is determined by their ability to use knowledge in the problem-solving process.

Figure 11 also shows that construction is even more complex than Harel and Papert (1993) suggests. Once we place construction in a social environment and add faculty to the mix, we have a set of relationships that, acting together, determine the course of knowledge production and learning. By tracing the linking of "circles, boxes, and pipes" in this schema, we can see how construction might work in a typical education, work, family, or community setting. To do this, we focus on the two submodels—engagement and involvement—and their relationships.

The Dynamics of Engagement

Learners cannot solve problems nor construct products unless they are engaged in the use of information and the tools for manipulating and transforming knowledge, energy, and materials. Engagement refers to the motivational state where the learner's attention is directed primarily to the task at hand (Gettinger, 1986). It is more than a passive reception of information offered by teachers; it is active search and discovery, which may well range far beyond the bounds of any curricular design.

Figure 12
The Dynamics of Engagement


assessment
relevant knowledge
engagement
teamwork
navigation
echange
learner direction
products
facutly expertise
learning opportunities
fachange
ochange
faculty training
organizational support

Engagement is linked to construction through the three variables shown in Figure 12 (products, relevant knowledge, and learner direction). These define the inputs and outputs of engagement. Products determine the development of both learner engagement and faculty expertise. Relevant knowledge is not only augmented by engagement, it "feeds back" to effect changes in engagement (through the exchange variable). At the same time, engagement affects teamwork, the central factors in our view of construction dynamics. This factor, too, is involved in "feedback" to help determine changes in both learner involvement and faculty expertise.

The model reflects the key role to be played by faculty in the learning process. Faculty are the navigators who assist students in discovering and applying relevant knowledge to the problems at hand (Fischer, Lemke, Mastaglio, & Morch, 1991). In other words, there are no "textbook" solutions to modern problems—only a landscape of evidence that may or may not be relevant—hence, navigational support is the key to productive engagement. By helping learners find productive connections in evidence, navigators assist in producing the models and paradigms that shape opportunity for learners (Checkland & Scholes, 1991). Faculty continuously review learner products with the goal of continuously improving the product and the learning process. This brings faculty expertise to bear on learning outcomes and helps to determine how learners will be engaged in the future.

There is another critical "feedback loop" involved in engagement. This has to do with the building of faculty expertise. What this "loop" does is value the products of learning for faculty and makes possible the further development of their personal models and paradigms (expertise). As Figure 12 shows, teamwork is a central factor in this process. Faculty are no longer aloof from the learning process; they are themselves engaged and become the beneficiaries of cooperative work.

All of this takes place in a context of learning opportunities. These are jointly created by learners (learner direction), faculty (expertise), and the institution (organizational support). Here our learning process deviates widely from the conventional practices of higher education. In place of rigidly scheduled classes, seminars, and laboratories, we have the whole range of human problem-solving settings reflective of life in work, family, and community. Because these opportunities are jointly created, they are valued by all stakeholders and are relevant to the best of the abilities of those involved.

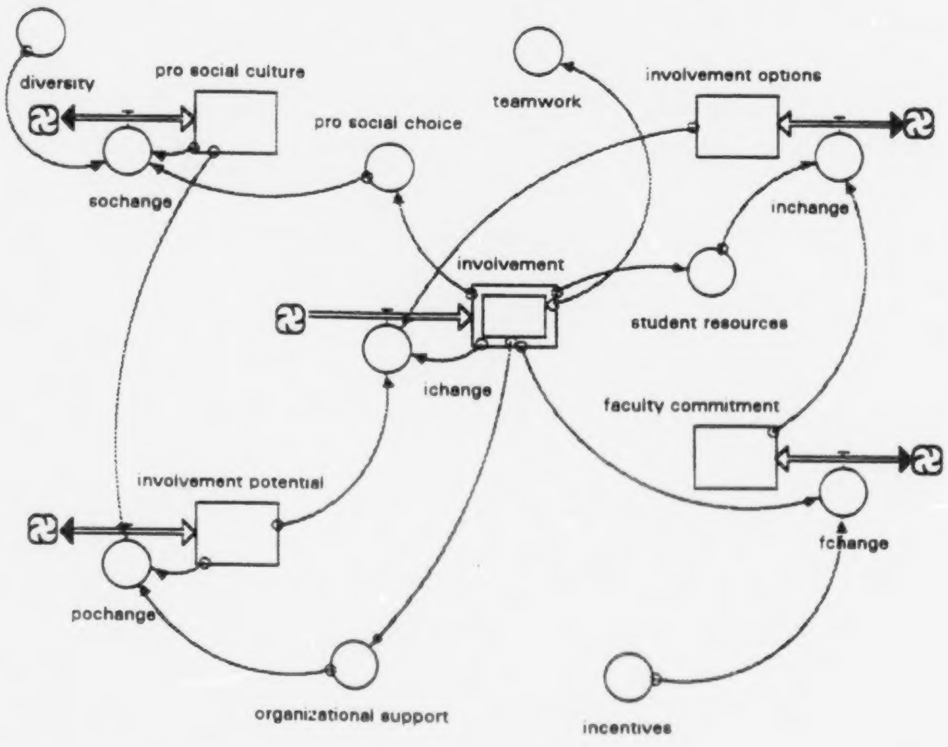
The Dynamics of Involvement

Involvement is what makes learning "social." It is like engagement in that it expresses a motivational condition; however, the motivating force here is social. Learners are involved in social exchanges where they find reference points for learning. But more importantly, involvement provides opportunities for developing social skills and value clarification that transfers to work, family, and community life (Tinto, 1989).

Learning is not merely an interaction between students and subject matters. It is a process that is made more effective by teamwork. This is quite different from the learning activities that characterize the traditional classroom. Teamwork involves assisting learners in navigating the Infoscape. Experts (faculty) are the navigators who add value to the learning process by forging links between knowledge and social construction. But they do it in cooperation with learners; all are members of a team. This brings the learning process into line with the kind of organizational life facing students outside the school (Castle & Estes, 1994).

To see how these factors help to structure the learning process, we must look more closely at learner involvement in postsecondary institutions. In Figure 13, we show involvement at the center of a cluster of four social variables.

Figure 13
The Dynamics of Involvement


diversity
pro social culture
teamwork
involvement options
pro social choice
sochange
inchange
involvement
student resources
ichange
faculty commitment
involvement potential
fchange
pochange
organizational support
incentives

What makes involvement possible is the involvement options in the learning environment and the involvement potential of learners. In fact, it is the social side of learning that gives the educational institution its reason for being. If there were no need for social construction, there would be no need for schools and colleges. This aspect of the learning process may be the most challenging for those designing new educational environments. The wide ranges in age, the variety of objectives, and the diversity of learner groups mirror the realities of modern social life. As such they define new forms of social life, which transcend the boundaries of convention. Thus, the involvement options of an effective learning environment must be configured to help learners acquire the skills that will enable them to function in a turbulent social milieu (Astin, 1984).

But options alone do not define social behavior. Values play a critical role in setting the conditions under which choices are made. We reflect this fact in Figure 13 by recognizing that there is pro-social behavior that draws people together and fosters involvement. Over time, such behavior builds into a pro-social culture, which can accommodate the diversity of contemporary student populations. This is not to say that the institution forces a value perspective on learners; instead, it is a forum for discussion of alternative values and an environment where the implications of varying beliefs can be tested. The pro-social culture also serves to support learning through involvement and teamwork. As learners become a part of the culture, they focus their energies through the social system of the organization and take advantage of the opportunities it provides (Lipetzky & Ammentorp, 1991).

The principal "driver" for these dynamics is the commitment of faculty. To the extent that they see the benefit in social construction, they can themselves be motivated to become engaged and involved in the learning process. This means that designs must be directed at building relationships between students and faculty so that mutual benefits flow from the social construction of knowledge. And it is organizational support that sets the conditions under which social life can develop.

Critical Design Elements in the Learning Process

If commitment is the "driver" of learning, technology is the instrument whereby learning can take place (Stuebing, 1992). Time and space limits for educational activities are eased by information technology. In addition, technology allows learning to be self-paced and sensitive to different learning styles and contributes to progress being accessed continuously (Massy & Zemky, 1996). Investment in technology makes teamwork "go" by enabling learners to access information and construct knowledge. This is the hypertext environment where information takes on life and becomes knowledge. In Barrett's (1992) words,

> Hypertext is an embodiment in a machine of the social construction of knowledge in the human domain of thought and language. Hypertext, hypermedia, [and] multimedia support all of the functions that define social construction: the collection and classifying of texts, the review and deconstruction of these texts, the exchange of texts among peers, [and] the empowerment of the individual through the ability to create marginalia (which may eventually take center stage). And computer media can do all of these things quickly, with fine or coarse-grained thoroughness, and with complete documentation of every interaction with a text or another individual. (p. 9)

But technology alone will not suffice to shape the learning process. In our models, we have isolated several other design elements that can be used to organize and manage learning in TYIs. Foremost among these is organizational support. Support ranges from resource supply to the organizational culture, which may or may not nurture the social construction of knowledge. If new designs are to realize the potential inherent in the above systems, schools and colleges must themselves become learning organizations (Senge, 1990). They must construct new social realities that reflect all aspects of the learning process.

The other key variable that cuts across our systems is that of faculty expertise and commitment. In the past, colleges have left this resource in the hands of individual faculty and paid little, if any, attention to its potential as a learning resource. This is no longer sensible; faculty are just as valuable to the college as players are to a professional sports team. They must be nurtured, developed, and shaped to respond to the demands of complexity and diversity. Each faculty member must become what Schon (1983) calls a "reflective practitioner," evaluating experience to help form the collegiate culture into a social milieu where construction is encouraged, informed, and facilitated.

Design Specifications for the Learning Process

To get a sense of the "well-constructed" student, consider the attributes of a modern software "agent," an alter-ego who can probe the intricacies of electronic databases. A software agent is a computer program that acts in meaningful ways in a social context. According to Etzioni and Weld (1995), characteristics of such agents are as follows:

- *Autonomous:* Having the ability to take initiative that is
    - goal oriented
    - collaborative
    - flexible
    - self-starting
- *Continuous in Time:* They are not one-shot processes that consider only simple links among information inputs.
- *Believable Personas:* They can interact with other agents and humans.
- *Communicators:* They are skilled in complex communications that facilitate goal attainment.
- *Adaptable:* They have the capacity to respond to changes in their environments.
- *Mobile:* They are able to fit into different contexts and systems. (p. 45)

These are, of course, precisely the attributes that a well-educated student needs to be an effective player in an information-rich environment. They are also the characteristics of an effective performer in a modern learning organization (Senge, 1990). When they are compared to current learner outcomes, we can see an overlapping of objectives that draws the learning process into the learning organization.

Although each new educational design must be unique, there are certain criteria that must be honored if the design is to be relevant. Foremost among these are the following:

- *Multimedia:* Environments can no longer rely on a single medium for learning. Students must have flexible access to the whole range of media with a primacy on timeliness of information and availability.

- *Networking:* These environments must provide for flexible links between learners and information and among learners. Teamwork, as well as individual activity, must be supported and dynamically configured (Holton, 1995).

- *Global:* In both knowledge and delivery of learning opportunities, the environment must be truly global. Parochial views of knowledge must give way to international perspectives and to the critical examination of alternative field paradigms (Riegle, 1995).

- *Social:* Learning can no longer be an individual matter; it must be framed in a social context and must address social issues. It is truly the "whole person" who is at the center of learning, with knowledge and environments in support of her or his development as a social being.

- *Values:* Learning is also about choice. As a person builds expertise, she or he selects information and constructs meaning. There is a larger sense of choice, which comes into play when expertise is put to work. Choice and the values that shape its options cannot be ignored in design but must have a central place in the conversations among learners, knowledge workers, and those who generate new knowledge.

The transition to a constructionist perspective on learning probably lies along a continuum like the one shown below:

Instruction	Work-Based	Team	Goal Directed	Construction
←	Learning	Learning	Learning	→

Each point on this scale includes all those to its left. Team Learning includes both Work-Based Learning and Instruction. This scale pictures a range of learning alternatives that can accommodate many different student needs and styles as well as the following roles for teachers:

- *Instruction:* Lectures and other didactic teaching practices are at the center of instruction-based learning processes. These approaches grow out of the subject matters to define the traditional academy.

- *Work-Based Learning:* On-the-job-training, apprenticeships and the like are used to give the student a hands-on learning experience. It is a key component of school-to-work models—an important step in "unfreezing" instructional systems (Bragg et al., 1995).

- *Team Learning:* Collaboration is an emerging theme in all aspects of organizational life. It is no less so in learning, where team efforts have been shown to be highly effective in improving student engagement in the learning process and in connecting learning to the external environment (Mathews, 1995).

- *Goal Directed Learning:* For the individual student to become adept at directing his or her own learning, each must develop a goal and a plan for its attainment. Goal directed learning connects the goals of the student with the objectives the college offers (Ram & Leake, 1995).

- *Construction:* All of the above learning modalities come together as students work in teams, pursuing their personal goals through collective construction of products and new knowledge. The shift in learning from instruction to construction is the fundamental change proposed in the NDTYI model (Harel & Papert, 1993).

With this background in mind, the design specifications for the NDTYI learning process are as shown in Exhibit 7. The major dimensions of the learning process are that it is relevant, engaging, involving, and constructive for learners.

Exhibit 7

Design Specifications for the Learning Process

- *Aligns with the learning context, signature, and outcomes:* Learning process pays close attention to the design specifications for previous design elements.
- *Results in learning products which improve the community:* Learning process produces products which are valued by the community external to the institution.
- *Links to internal and external standards:* Learning process is responsive to the expectations of staff and the wider community (e.g., needed to continue learning at other educational institutions, occupational skill standards).
- *Applies continuous assessment to improve learning:* Learning process uses frequent and immediate assessment and feedback to improve the learning experience.
- *Personalizes to the needs and prior experiences of each and every learner:* Learning process is tailored to the unique situation and experiences of each learner with the learner at center of the planning process.
- *Provides multiple pathways to reach learning outcomes:* Learning process provides several ways to learn the same thing.
- *Builds the self-esteem of each learner:* Learning process is a positive and energy-producing experience for learners.
- *Is managed by learners in consultation with learning staff:* Learning process is managed by the learners with guidance by staff.
- *Employs collaborative learning in problem solving:* Learning process involves working as a small group or team to solve problems.
- *Creates strong sense of learning community:* Learning process builds a close and caring relationship among learners.
- *Engages the learner in inquiry (research) and knowledge construction:* Learning process involves students in the research and development process and forming meaningful knowledge.
- *Links to global information network:* Learning process is tied to and uses electronic information networks (e.g., Internet).
- *Guides by experienced navigators:* Learning process is shaped by knowledgeable staff who are very familiar with using information networks.
- *Uses learning projects connected to the needs of the community:* Learning process uses real projects drawn form the needs of the community as a context and content for learning.

New Designs for the Learning Process

With the learning process, the tact taken in describing exemplary new designs was to identify and describe two examples of existing learning processes in TYIs that illustrate several of the recommended design specifications. Undoubtedly, there are many such examples in practice of which we are simply unaware. We chose examples recommended by the National Design Group from institutions with which they were familiar.

Project Synergy

Project Synergy (Miami-Dade Community College, 1995) is based out of Miami-Dade Community College and is being used in several colleges across the country. In essence, the purpose of the project is to provide an opportunity for learners to manage their own learning of developmental/remedial skills, which are prerequisite to pursuing more specific programmatic study. The project is computer-based and draws on a wide variety of learning materials to learn particular skills. The learner has multiple options in the materials that are used, so an individualized learning process can be designed. Assessment is built into the learning experience in a continuous way. Learners can start at a variety of points as a way to take credit for what they already know and build from there. Since the learning experience is computer-based, students can access the learning process anytime and anyplace where a computer, which is networked to the system, is available.

Project CWELL

Project CWELL (Consortium for Workforce Education and Lifelong Learning) (Sticht, 1994) involves the San Diego Community College District in a partnership with San Diego State University and the Applied Behavioral and Cognitive Sciences, Inc., with funding from the William and Flora Hewlett Foundation. Teams of students, guided by a faculty member, are engaged in learning projects that focus on doing research and development in the community of San Diego. Students are viewed as student researchers and produce products needed in the community (e.g., a recent team was recognized in the local newspaper for developing a new curriculum to improve GED preparation). Students are involved in selecting the problem to be addressed, designing the problem-solving approach, doing the needed research and development, and producing a solution. Collaborative problem-solving is central to the learning experience, as is the use of internal and external standards, along with viewing the TYI as a source of research and development with student participation.

Summary

Throughout this section we have emphasized the social construction of knowledge. Individualized, academic control over knowledge production and distribution is rapidly giving way to a diffused social constructionism where all users of information—individually or through an organization—are involved in transforming understanding. This is the central dynamic that informs all new designs for postsecondary education.

What we hope to leave with our students is, first of all, an appreciation of complexity; respect for the unknown along with the confidence to do something about it. Secondly, it is the task of educators to build the conversational foundations for understanding. Students must speak the languages of relevant subject matters and must be able to master new dialects as they appear. Finally, they need to possess useful mental models of the human and material worlds they inhabit so that they may construct knowledge and its useful products.

CHAPTER SIX:
LEARNING ORGANIZATION*

First we need to clear up what might be an initial confusion in the use of the term, *learning organization*. The reference is not to learning organization in the sense used by authors such as Senge (1990). Rather, our intent is to refer to the organization for learning in the TYI with the organizing being supportive of the learning context; learning signature; learning outcomes; and, specifically, the learning process specifications already set forth in NDTYI. When considering what dimensions of an educational institution can be organized, the typical dimensions that come to mind are the organization of students, time and time schedules, learning settings (i.e., on or off campus), staff, learning processes (i.e., pedagogical arrangements and infrastructure), and decisionmaking. Organizational attention might also go to technology, resource allocation, and functions within the institutions (e.g., admissions, guidance, instruction, placement, institutional development).

With this said, the idea of learning organization in the Senge sense will be given attention in this section because learning organization with this meaning is a good backdrop for organizing learning in NDTYI. It models the dynamics in organizing for learning that we have in mind.

Purpose of the Learning Organization

The purpose of the learning organization element in the design process is to address the structure and infrastructure of the TYI to ensure that it is aligned with and supportive of the other elements of the design process, particularly those elements that have already been addressed. In turn, the design specifications for the learning organization will have direct implications for the design process elements to follow such as learning partnerships, learning staff, and learning environment. It is at this point in the design process that the reality of the degree of change that will be required to work effectively in the projected learning context and with the recommended learning signature, outcomes, and process becomes apparent. With the design specifications for learning process, some feeling of the change is noticeable, but many of these concepts are already part of the higher education rhetoric and jargon. Now as the organization for learning comes into focus in response to seriously supporting the envisioned specifications for learning process, those involved in the planning and operating of institutions begin to see that they will face major changes.

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* The part of this section focusing on "Key Concepts Regarding the Learning Organization" and the initial draft of "Design Specifications for the Learning Organization" were written by William Ammentorp. The remaining sections and overall editing was done by George Copa.

At this point, the educational designers and stakeholders have at least two clear options: (1) keep going and map out the design specifications for learning organization with the idea that what has come before is really true and the organizational changes are only speaking more of the truth; or (2) go back and alter the design specifications for learning context, signature, outcomes, and process as really not needed. The learning organization element of the design process will take the first option and is used to provide guidance to the organization of time, students, staff, learning process, learning settings, decisionmaking, technology, facilities, and governance.

Process of Developing New Designs for the Learning Organization

As with the learning process element of the design process, the design specifications for learning organization were developed on the basis of a review of literature and best practice, a focus group interview with TYI staff at DeKalb Community College in Atlanta, and discussions by the National Design Group. The literature review is presented under the later heading of "Key Concepts Regarding the Learning Organization." Highlights from the focus group interview and National Design Group discussions are presented in this section.

Focus Group Findings

The focus group interview which dealt with learning organization was held at DeKalb Community College in Atlanta, Georgia. DeKalb Community College has three campuses serving the downtown and suburban areas of Atlanta. The interview was done with about 20 members of the faculty, student services staff, and administrative staff. The group was split into two small groups, and the interviews were done simultaneously by two members of the NDTYI staff. The lead question for the interview asked the group to think about times when they felt learning was really going on and then to describe how things were organized to support the learning. Indications that learning was taking place were as follows:

- When teaching and learning began to blur and I as teacher was both learning and teaching.
- When the focus of learning was real (e.g., doing pro-bono legal work representing real people).
- When there was the opportunity to apply learning.
- When learning was timed to when it was really needed.
- When students had a role in deciding what was to be learned and how it was to be learned.
- When students are not afraid to take the risk and speak out concerning their own concerns and views.
- When students get immediate feedback.
- When students have access to concrete examples of what they are learning about.
- When students did research.
- When the time schedule was open ended (e.g., Socratic method used).
- When students saw connections of learning to their lives.
- When it was realized that learning can occur anywhere.
- When the learning was very personal, one person at a time.
- When the learning was recognized by the learner—they got immediate feedback.
- When students worked in small groups and helped each other.
- When students could learn at their own pace and schedule—not locked into time constraints.
- When there was a lot of demonstration and coaching by the teacher.

- When the lines between real courses (during the day) and continuing education courses were blurred.
- When staff were connected across the disciplines—when we worked together with a unified approach.
- When we started with projects, and students produced tangible products.
- When we were sensitive to cultural differences.
- When staff development occurred across the whole staff.
- When faculty and students had ready access to technology for all curricular areas.
- When the faculty acts more as a coach.
- When students are comfortable in terms of access to refreshments and seating.
- When students take responsibility for their learning.
- When the community is involved in the learning experience.
- When students feel they are part of a "family" of other learners.

National Design Group Discussions

A major portion of one of the National Design Group meetings was devoted to a discussion of learning organization, and later meetings were used to review drafts of the design specifications for learning organization. The major ideas and suggestions that emerged in the discussions were as follows:

- There are benefits from co-learning by teachers and students.
- Students should be involved in developing the learning process.
- We should shift from fixed time and variable achievement to variable time and common achievement of mastery; time must be viewed as resource and not a constraint.

- Before putting up new buildings, we need to take care of what we have and explore more joint use of existing spaces in the community—leveraging other facilities. There simply are no more resources to build new space.
- Do we need a place called a college with the advances in distance learning and technology? Learning need not be fixed in time or place with current information technology.
- Some students need the protection and sense of place given by a college campus.
- There must be many ways to go about learning.
- There should be rewards for learning.
- A mix of diverse people contribute to learning.
- It is important to carefully monitor student progress and provide a strategy to support students when support is needed.
- Learning in the context of application has value.
- Cooperative learning is important.
- Students should pay for achievement of learning outcomes, not time spent in courses.
- It is fundamental that the technical and academic areas be integrated organizationally—be part of one system.
- There is a need to capture and support both formal and informal learning.
- There is a need to institutionalize collaboration inside the college and externally with the community.
- There is a need for "charter" colleges, where new forms of learning organization can be developed and tested.

The ideas from the focus group interviews and National Design Group discussions were used to shape an initial draft of design specifications for learning organization in

TYIs. The draft specifications were then reviewed by the National Design Group at a later meeting.

Connecting the Learning Organization to Previous Elements in Design Process

The preceding steps in the design process have set the stage for a transformation of the TYI. The design specifications for learning organization suggest fundamental changes in the organization, operation, and management of higher education. We can see the signposts of change in the organization of learning in each of the design specifications for the previous design element—the learning context, signature, outcomes, and process. The learning organization must be fitted to the design context for TYIs described by the concepts of imaginative, directive, responsive, collaborative, accountable, and resourced. Taking responsive as an example, the organization of learning must be attuned to the goal of accessibility in terms of cost, time, learning style, age, geographic location, readiness, and ethnicity:

- *Alignment with learning signature means, for example, helping to project an image of the institution that reinforces its chosen identity:* Alignment with learning outcomes on one dimension means reaching for educational excellence that provides challenge and opportunities.
- *It results in learning products that improve the community:* For the learning organization to support this process specification, learning must be organized in close concert with the needs of the community and provide easy opportunity to actually produce significant product.
- *It is linked to internal and external standards:* Learning organization that is aligned with internal and external standards will mean opportunities to involve those who know and assess the standards. For external standards, this will mean a role for community-based evaluators and opportunity to demonstrate competence in real work, family, and community settings.
- *It applies continuous assessment to improve learning:* This process specification means that learning will need to be organized so that feedback on progress is

continuous and is communicated and taken seriously by those responsible for the design of the learning process.

- *It is personalized to the needs and prior experiences of each and every learner:* Organization of learning to meet this learning process expectation means careful initial and ongoing assessment of each learner, development of individual learning plans with the learner actively involved in developing the plan, and learning organized to be sufficiently flexible to meet the needs of a diverse array of individuals.

- *It provides multiple pathways to reach learning outcomes:* Learning organization will need to move away from the expectation that one or even a few paths to success are sufficient. Learning organization will need to be more like a complex pathway system with multiple routes and good signage to various destinations.

- *It builds the self-esteem of each learner:* Learning organization will need to bring students into the learning process at places where they can be successful and provide immediate reinforcement when and wherever learning occurs.

- *It is managed by learners in consultation with learning staff:* Learners will need to play an active role in organizing learning to meet their needs.

- *It employs collaborative learning in problem solving:* Learning will need to be organized so that students have ample opportunities to collaborate and develop problem-solving skills.

- *It creates strong sense of learning community:* Organization of learning must be planned with the attributes of community building in mind. That is a strong sense of caring for each other, a shared set of values, and opportunities to know and develop trust in one another.

- *It engages the learner in inquiry (research) and knowledge construction:* Learning must be organized so that students are involved in constructing knowledge much more frequently. This demands flexible time, access to learning resources, and opportunities for feedback and reflection. And the institution must begin to think of its role and mission in research and service along with teaching.

- *It is linked to the global information network:* Learning must be organized to provide ready access to global information networks and international experiences on campus and throughout the world.
- *It is guided by experienced navigators:* Staff must be organized in a way that develops and uses skills in guiding learners in the process of knowledge construction, drawing on multiple disciplines, and working in multiple settings.
- *It uses learning projects connected to the needs of the community:* The implications for learning organization are quite clear here. The community becomes very central to learning, and lines are blurred between campus and community. This will be essential in planning and supporting the desired learning process.

Key Concepts Regarding the Learning Organization

The learning organization has become a central concept in both the language of organizational practice and in the literature of organizational theory and research. It represents a productive response to the uncertainties of a turbulent environment. Despite the popularity of this idea, we find little evidence of such learning activities in educational institutions. Instead, we find schools and colleges that can be labeled teaching organizations, where there is little use of information for purposes of organizational learning. NDTYI attempts to change the collegiate metaphor from teaching to learning. It defines the information flows needed to foster student learning and to link the academy to its environment. Through the use of modern organizational research, NDTYI develops a design for the learning college. This design takes shape in models of the essential systems needed to promote organizational learning.

In developing this chapter, we attempted to strike a middle ground between emphasis on structure versus emphasis on process. Such a middle ground lies between the conceptual approaches to organization design and structural designs like those described by Richardson (1991). Our approach is very much in line with Senge (1991), if one includes his analysis of microworlds in the design process.

The transformation called for in these steps is one that changes the college from a teaching institution to a learning organization. If the college is to be about learning, it must learn about itself, its work, and its environment.

The Teaching Institution

Schools, colleges, and universities have one basic characteristic in common—they are teaching institutions. They teach in the sense that information is supplied to students by experts. The information they provide is lodged within a curriculum that is relatively static in the short run and only marginally dynamic in the longer run. They are institutions in the sociological sense of the word. That is, they exhibit certain patterns of organization and standard sets of roles for both staff and students.

More to the point of this section, the teaching institution is a prisoner of a paradigm that cuts across all educational organizations. This is a perspective that sees the work of schooling through the lens of resources. Students are counted only as FTE (full-time equivalents), who generate an average level of tuition so that revenues can be estimated. In the case of the school, the concern is limited only to enrollment or ADA (average daily attendance) since there is no other revenue. On the expense side of the ledger, it is the FTE faculty and their average salary that expresses costs. This gives rise to a narrow view of productivity where SCH (student credit hours) are the bearer of the costs of production embodied in faculty (Massy, 1991).

Nowhere in this paradigm is any attention paid to learning. Not even in the limited sense of costs per unit gain. Learning is assumed to take place whenever SCHs are delivered. And the magnitude of learning is reflected in the amount of "seat time" spent by students to accumulate "credits" toward some license or degree. There can be no argument with the proposition that education is instruction and that, for the most part, it takes place in the institutional frame defined in the above paragraphs.

Here is the starting point for the organizational design process. To be seen as credible, any new design must begin with the concepts and language of the "Financial Management Paradigm" (Bruegman, 1995). There are at least three reasons why this paradigm must be taken into account. First, the institutional system of higher education speaks this peculiar dialect. Students attempting to move from one organization to another must measure the value of their learning in terms of "credits."

Second, those who staff and manage schools and colleges see their world in terms of this "ruling paradigm." They see students as seekers after "credits"; they allocate resources according to the variables of "FTE" and "tuition"; and they organize themselves in divisions and departments that house "credit-based" subject matters. Finally, the buyers themselves, the students, expect organizational forms and practices consistent with the paradigm. They know that "credits" are the coin of the realm, and they are unconvinced that alternative products such as learning outcomes have value in the marketplace.

These attributes define an organization that is, in every sense of the word, "collegiate." It is hierarchical in structure and committed to the symbols of status that hold the university in highest esteem and relegate the TYI to the lowest echelon. It is an organization that is balkanized into departments that reflect ancient subject matters; divisions which, in subtle ways, speak to a hierarchy of prestige. The attributes of "collegiality" can be summarized as in the following:

Signature ---------- Logo

Outcomes ---------- Subject Matter

Learning Process ---------- Instruction

Organization ---------- Collegiate

Staffing ---------- Tenured

Partnerships ---------- One Way

Environment ---------- Campus

Celebration ---------- Graduation

Finance ---------- Line Item Budget

The "collegiate" organization is managed from a bureaucratic perspective which uses the budget cycle as its principle point of reference. In effect, managers use a "single loop" structure that uses year-end data to plan for the next year. The result is a ponderous organization, ill-equipped to function in a rapidly changing, global environment (Pew Higher Education Roundtable, 1994). And it is this environment that is forcing a new design on the academy—one that is able to foster learning and has the capacity to learn about itself and its future prospects.

The Learning Organization

In the turbulent environments of modern organizations, survivors, to say nothing of those who will succeed, are the businesses, agencies, and schools that are able to learn. To quote Senge (1990),

> This, then, is the basic meaning of a "learning organization," an organization that is continually expanding its capacity to create its future. For such an organization, it is not enough merely to survive. "Survival learning" or what is more often termed "adaptive learning" is important, indeed it is necessary. But for a learning organization, "adaptive learning" must be joined by "generative learning," learning that enhances our capacity to create. (p. 14)

Thus, learning implies both the capacity to "fit" to the environment and to shape it toward a productive future for the organization.

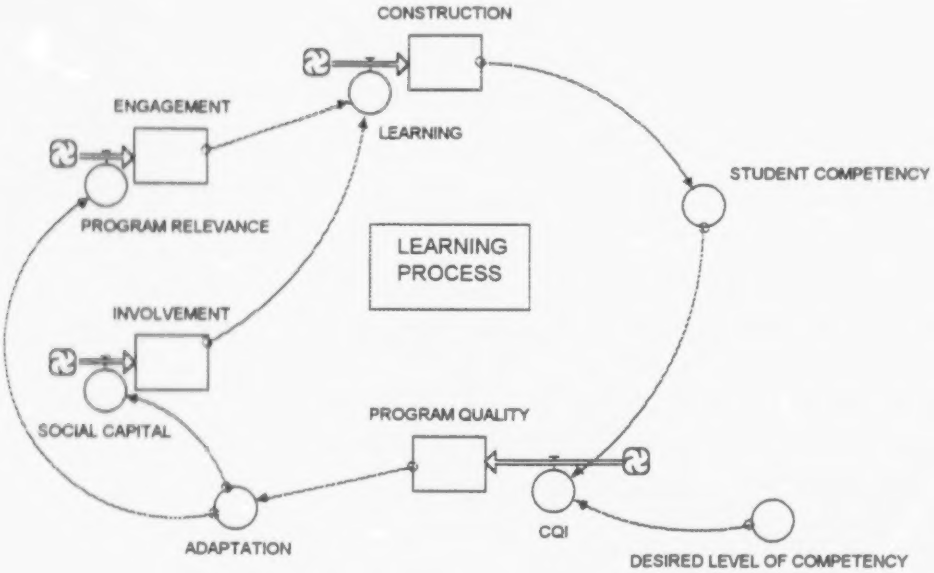
As we move toward this objective, it is necessary to leave inappropriate organizational metaphors behind (Morgan, 1986). Old paradigms rely on hierarchies, bureaucracies, and, in education, instruction/finance. They have no survival value in a modern, global society. In their stead, we need organizations that can generate new knowledge and the systems to put it to work (Mason, 1992). This means that a new organizational design cannot be framed exclusively in student credit hours, full-time equivalent faculty, and credit-based courses. Instead, design must be described in a new language where learning takes center stage (Barr, 1993).

The language of the learning organization centers on information. This is in marked contrast to other metaphors where roles, structures, and power are the topics of conversation. In education, the work of the organization is compartmentalized by the subject matters owing their form to ancient philosophic principles. These same organizations manage day-to-day affairs by simple divisions of labor that hearken back to the colonial foundations of the academy. To make it possible for these organizations to learn requires more than a little cultural transformation. The current management culture must alter its financial base to incorporate partnerships and innovation. And the academic culture must alter its view of subject matter and accommodate a learning perspective.

Such fundamental transformations require a radically different perspective on the structure of the college. The collegiate model so familiar in educational organizations will be replaced by dynamic structures that foster innovation within the organization, adaptation to the environment, and, above all, responsiveness to learners (O'Banion, 1995).

If the NDTYI is to foster learning, it follows that the organization must be constructed from this starting point. When learning is shaped to the capacities of students and the requirements of social and economic life, the foundation of the learning organization is in place. In Figure 14, we show the flow of information associated with the learning process.

Figure 14
Information Flows in the Learning Process


CONSTRUCTION
ENGAGEMENT
LEARNING
STUDENT COMPETENCY
PROGRAM RELEVANCE
LEARNING PROCESS
INVOLVEMENT
SOCIAL CAPITAL
PROGRAM QUALITY
ADAPTATION
CQI
DESIRED LEVEL OF COMPETENCY

The "Learning Process" of this new organization is at the center of Figure 14; it includes the set of activities that facilitate student interaction with knowledge and with one another. It is the organizational site where construction has replaced instruction.

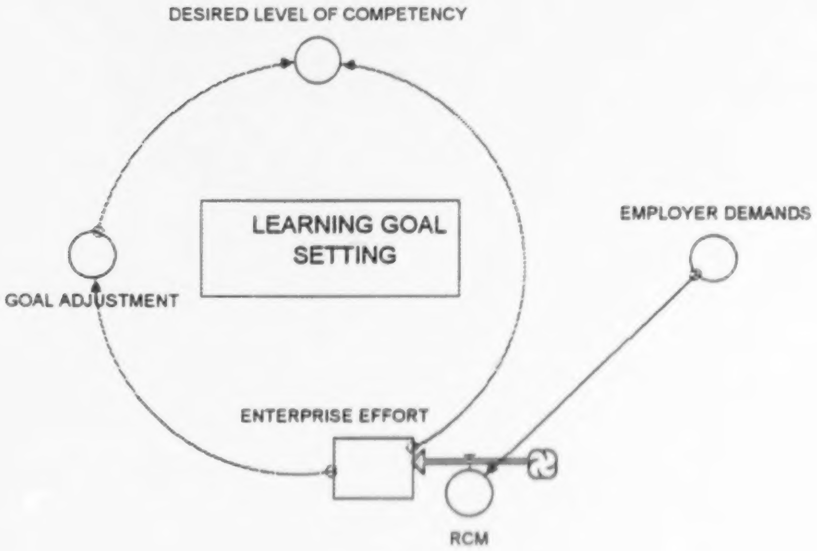
In order to put the Learning Process in an appropriate framework, we must provide for the use of information in organizational learning. Information about the results of constructive learning activities must be "fed back" to effect changes in the learning process. This is essentially a "Continuous Quality Improvement" (CQI) function in which student assessment is used to improve the performance of the learning process (Langford & Cleary, 1995). Figure 14 shows that the college has a goal for the Learning Process in the form of "Desired Level of Competency." Based on information about work and social life, the college can determine what the student must know and be able to do in order to be a fully functioning citizen (Astin, 1995).

The standard of Desired Level of Competence is used to evaluate the results of assessment of "Student Competency." By comparing assessments to the standard, the college can initiate "Adaptations" that modify social "Involvement" and learning "Engagement." These modifications lead to changes in the "Construction" experiences of students to bring resultant Student Competency into line with the Desired Level of Competency.

Loops of this type replace the traditional hierarchical structures in the learning organization. They use information that compares current conditions, processes, and outcomes against desired standards to initiate corrective actions. The quality of the resulting performance depends upon the accuracy of information passed along the loop, the speed at which the loop processes information, and the extent to which key processes and actors are included in the loop (Richardson, 1991). These are also the attributes of CQI structures as they have been implemented in education (Spanbauer, 1992).

Figure 14 is the "fast loop" in the learning organization. It produces change on a time scale that is measured in days or hours to adapt learning experiences to the student. As learning experiences are aggregated over time, there is a larger concern having to do with the match between the "Desired Level of Competency" and the demands of work and social life. The "learning loop" that addresses this match is shown in Figure 15.

Figure 15
Information Flows in Learning Goal Setting

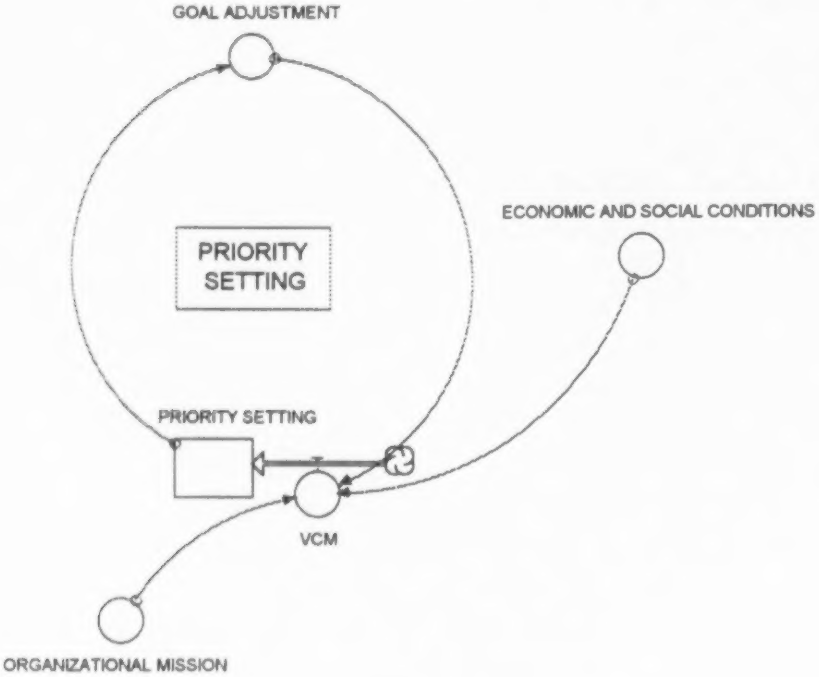


Using worklife as one context for developing and assessing learning outcomes, in the "Learning Goal Setting" loop, information is used to compare current goals with regard to Desired Level of Competency with "Employer Demands." By taking measures of student functioning in the workplace, the college can assess the extent to which it is preparing students appropriately. These comparisons lead to discrepancies between "what is" and "what is required" and are indicative of needs to engage in "Goal Adaptation" which, in turn, leads to changes in the Desired Level of Competency. "Responsibility Centered Management" (RCM) is the name of this process. College resources are directed to those goals that are most in line with the expectations of employers (Robbins & Rooney, 1995). Over time, changes in societal expectations are followed by the college so that students are prepared for current realities.

This loop is somewhat slower than that shown in Figure 14. However, it is a loop that must function much more rapidly and accurately than the traditional college program advisory committee if it is to respond to the accelerating pace of change in modern economic life. It is also a loop that is in continuous operation as the college engages in environmental scanning and goal adaptation.

There is, of course, a larger issue having to do with the capacity of students to function effectively in family and community, as well as in the workplace. To address the associated competencies, the college must make decisions concerning which learning goals it seeks to emphasize. In effect, the college must set priorities among learning goals to give students the best possible preparation. In Figure 16, we show the information flows associated with this decision.

Figure 16
Information Flows in Organizational Priority Setting

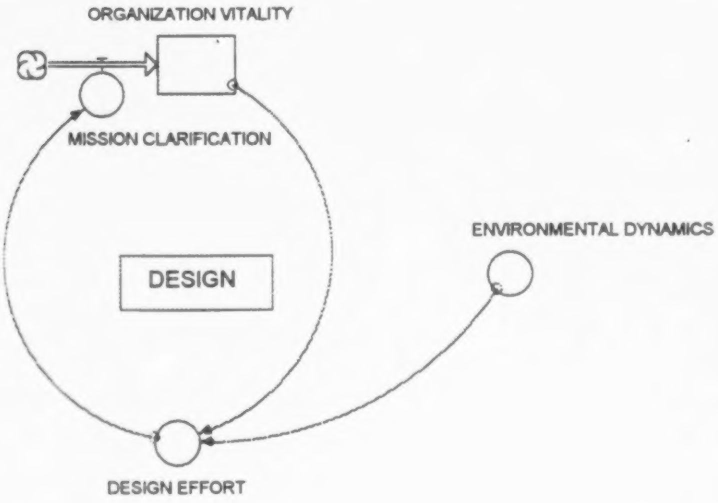

GOAL ADJUSTMENT
ECONOMIC AND SOCIAL CONDITIONS
PRIORITY SETTING
PRIORITY SETTING
VCM
ORGANIZATIONAL MISSION

"Priority Setting" is where the organization learns about the efficacy of its "Mission." If Mission does not address the "Demands" of social and economic life, new organizational goal priorities must be determined. This involves "VCM" (Value Centered

Management), where stakeholders debate what the organization is about and how effectively it prepares students (Whitaker, 1994).

Finally, there is an overall concern with organizational vitality—that is, the capacity of the college to survive and prosper in the very long run. Vitality is ensured in the learning organization by information flows that speak to the needs for NDTYI as shown in Figure 17.

Figure 17
Information Flows in Organizational Design



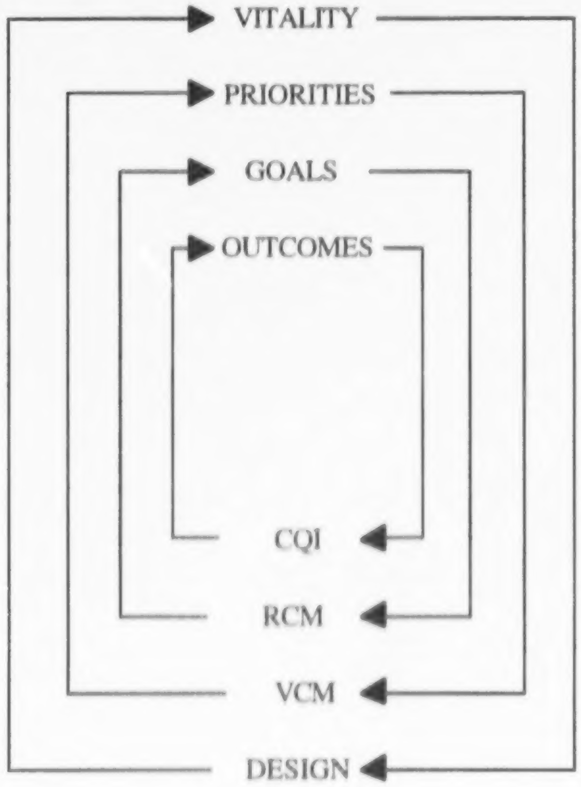
Constant attention to "Vitality"—that complex of resources, market presence, and staff motivation—is the driving force behind "Design" efforts. As the college experiences its relationship to the environment—the local, national, and global realities of modern life—it can determine whether current "Mission" emphases guarantee future "Vitality." By tracking organizational performance on key indicators, the college can make a general assessment of current Vitality and gather important insights into future prospects (Community College Roundtable, 1993). In the "Design" process, the institution shapes Mission to the ever-changing dynamics of the environment.

The Structure of the Learning Organization

The four loops pictured in Figure 17 constitute the structure of the learning college. They are "nested" within one another and connected by key relationships. For instance, the Design loop is connected to the Goal Setting loop by the "Organization Mission." Thus, design decisions help to set goal priorities and the effects of these decisions are felt throughout the organization. This example does not, however, imply a hierarchy of cause and effect. What happens is that Design decisions find their way to the Learning Process, which takes many other factors into account in shaping student competency. And it is student competency that relates the college to its environment to complete the circle.

Interdependency among learning loops can be shown by the "nest" displayed in Figure 18. Structure in the learning organization is found in the exchange of information within and between these loops. At any point in time, there will be an observable structure, but it will be temporary. As the environment changes, so will structure. Organizational learning is the result; the college becomes a continually adapting system of relationships, which ensures its vitality in a turbulent world (Yates, 1987).

Figure 18
Information Flow Loops in the Learning Organization


VITALITY
PRIORITIES
GOALS
OUTCOMES
CQI
RCM
VCM
DESIGN

Design Specifications for the Learning Organization

Given the above ideas and concepts, the recommended design specifications for the learning organization are shown in Exhibit 8.

Exhibit 8
Design Specifications for the Learning Organization

- *Aligns with the learning context, signature, outcomes, and processes:* Learning organization pays close attention to the design specifications for previous design elements.
- *Responds to the unique learning plans of learners and recognizes and uses prior experiences of learners:* Learning organization must make a firm commitment to personalizing learning by assessing what the learner brings to the learning process and building on this assessment in planning subsequent learning experiences.
- *Learner organization supports formation of strong learning communities:* Learning organization must create a sense of smallness and provide opportunities for learners to work in teams and learn informally.
- *Learning process organization supports integration of general and technical subject matter areas and collaboration between the institution and the community:* Learning organization must naturally draw together and blur boundaries between general and technical subject matter and institution and community.
- *Time organization supports flexibility (e.g., just in time, learning in breath and depth) in learning process:* Learning organization must provide the flexibility in time essential for learners to engage in more project-based (constructivist) learning focused on producing products valued by the community.
- *Staff organization supports becoming very knowledgeable of learners, building strong learning communities, using the community as a learning context, and integrating subject matters:* Learning organization must commit to flexibility and training for staff to personalize learning, manage community-based learning, and work in inter-subject matter teams.
- *Technology organization provides ready access to information and resources to support learning:* Learning organization must deploy technology so it is decentralized and personalized.
- *Environment organization creates flexibility, access to multiple learning settings, and building learning community:* Learning organization must support learning in multiple settings and settings which adapt quickly to the needs of the learning process.
- *Decisionmaking organization involves learners and supports making decisions as close as possible to those most affected by consequences of the decision:* The learning organization must commit to keeping learners and staff informed about and involved in resolving issues and concerns affecting them and the institution.
- *Governance organization supports continuous institutional responsiveness to the needs of society, the local community, and learners:* The learning organization must support governing the institution in a way that ensures the institution's vitality and nurtures quality learning experiences.

A more detailed explanation of each specification is as follows:

- *Organizational elements should be aligned with the learning context, signature, outcomes, and processes.*

New designs for learning organizations must be shaped by the requirements set by the learning process, which in turn is based on learning context, signature, and outcomes. As those requirements are aggregated, they define the needs for collecting information for the purposes of student learning and for flows of information that make for nimble, imaginative decisions. In effect, the learning process must be surrounded by information structures which make it possible for the organization to engage and shape its environment. This is especially critical for the postsecondary institution as it takes on the responsibility for individual and community development.

- *The organization should be responsive to the unique learning plans of learners and recognize and use prior experiences of learners.*

There is, in effect, no standard learning process organization. Instead, each student has a learning plan that specifies the experiences that will move her or him toward her or his personal goal. The learning plan is dynamic in that it is continually revised in light of the learning experiences of the individual (Sinclair Community College, 1994). This is continuous quality improvement in action—a new design for the planning and management of learning. The institution must make it a firm priority to assess the knowledge the learner brings to the learning process and build on it in planning subsequent learning experiences. This will mean that each and every student will be given individual attention in the organization of the learning experience—the "moment of truth" regarding the commitment to student-centered learning. Somehow the institution must be brought around to marshal and organize its learning resources with the learner at the center, rather than being driven by staffing patterns or program structures.

- *Learners should be organized in a way that supports formation of strong learning communities.*

Business and social organizations of the future will be characterized by intensive social exchange. People will work in teams and will be drawn together in communities where common interests are shared on a global scale. To function in such a future, individuals will need social competencies that can only be gained by experience in learning communities where students are involved with one another and engaged in the learning process. They should come to see the attributes of community, and how the attributes are developed and maintained, as well as the consequences of lack of community. Creating a sense of smallness in organization and designing to maximize informal learning are key factors in supporting and taking advantage of building learning communities.

- *Learning processes should be organized in ways that support integration of general and technical subject matter areas and collaboration between the institution and the community.*

Historical divisions between academic and vocational curricula are a thing of the past. The challenges and opportunities of work, family, and community life do not come separated into each of the disciplines; rather, they come with the need to draw from and integrate several subject matter areas. The TYI must clearly and boldly move beyond the separation of disciplines if it is to be organized in a way that supports the learning process we have recommended. Then it will have a reasonable chance of reaching the learning outcome specifications that have been set forth.

Similarly, close collaboration between the institution and the community must become the expected and achieved norm in the way the institution operates. This is what Massy (1991) calls an "open system". There is no hope for the college that is disconnected from its environment; it cannot obtain the resources, knowledge, and clients it needs for survival. To be "open" means that meaningful exchanges take place between the college and its community. It is not realistic to pose the learning outcomes and processes advocated by NDTYI without taking the collaboration with community seriously; this topic will be taken up more directly in the next chapter on learning partnerships. Institutions of higher education must quickly move away from the current mode of being fairly isolated from the community in location (often on the edge of the city, surrounded by huge parking lots and sometimes imposing walls), mode of delivery (come to campus, during the day), and opportunity for regular faculty to be available to guide learning in community contexts.

By overturning traditional patterns of organization, the newly designed college makes it possible for new subject matters to emerge on demand. Knowledge is truly integrated in ways that foster the production of new knowledge and its products. Connecting to community also implies a joint responsibility for individual growth and community development (Castle & Estes, 1994).

- *Learning time should be organized to support flexibility (e.g., just in time, learning in breath and depth) in learning process.*

A major barrier to transforming the present operation of TYIs in the directions of new designs is the time schedule—academic years, quarters and semesters, courses, and class periods. Again, if an institution is to take the recommendations of NDTYI for learning outcomes and process seriously, it must confront standard operating procedures with regard to time schedule and learning process quality assurance (e.g., long processes for curriculum modification and approval, everything equivalenced against the norm of a three-credit class, meeting during the day for one quarter/semester). There must be a high-speed feedback loop, which makes it possible for staff and students to examine the outcomes of learning and adjust experiences to ensure that outcomes match opportunity. This amounts to continuous quality improvement of the learning process (Kaufman & Zahn, 1993). Student experiences are arranged "just in time" to meet the opportunities of the moment.

- *The staff should be organized in a way that enables them to become very knowledgeable of learners, be able to build strong learning communities, be able to use the community as a learning context, and be able to integrate subject matters.*

In the learning organization, instruction has given way to construction. Staff and students are co-equal in their joint search for timely, high-value knowledge. They arrange social and intellectual activities that mirror productive life outside the college. As a consequence, the number of tenured faculty declines in favor of persons involved in knowledge production and use in community and business organizations. Each learner must be known by someone on staff if student-centered learning is to be achieved. Building strong learning communities requires that staff have the flexibility to interact with learners, their staff colleagues, and community partners in informal as well as formal settings. Staff must be able to move about the community if the community is to be used as an effective source of learning projects and the projects are to develop into high-quality learning experiences, tapping into the best learning resources of the community. And staff must be cross-subject matter and crossfunctionally organized if the learning resources of the institution are to be made fully available and support integration of subject matter and "wrap-around" services with the learner as the center of attention and recognition.

- *Technology should be organized to provide ready access to information and resources to support learning.*

  Technology shapes the learning process while, at the same time, competence with technology is a learning outcome. No quality institution can hope to be appropriately positioned in a turbulent environment without state-of-the-art information technology (Seymour, 1991). Technology must be organized so it is readily accessible for scanning as learning resources, for communicating with co-learners, and for producing learning products. Key directions in organizing learning technology are to decentralize and personalize technology as soon as possible, with costs and constant training as due considerations.

- *Environments should be organized to create flexibility, access to multiple learning settings, and promote building a learning community.*

  If the learning process is to be characterized as just in time, the physical learning environment must be very flexible and adaptable or the environment will become an immediate barrier. The environment can easily shape and "wear down" the best intentions with respect to the learning process. Because more of the learning will be project-based, with projects drawn from the community and learning occurring in the community, the learning environment must be thought of as a network, web, or pattern of settings located throughout the campus . . . near-community, home, workplace, and the far-community readily accessible via information technology. And the environment can be a big factor in increasing a sense of community for learners.

- *Decisionmaking should be organized to involve learners and make decisions as close as possible to those most affected by consequences of the decision.*

  This means that learners are the principle driving force in continuous quality improvement of the learning experience. They have many of the experiences needed to shape their own learning plans. And the college must develop new forms of organization to support student choice (Cheng, 1993). Also for the learning staff, this design specification means a decentralization of decisionmaking and organizing in a way that localized decisions are made effectively (e.g., clear delegation, access to information, necessary power) and efficiently (e.g., time is provided, structures are in place, training is provided).

- *Governance should be organized to support continuous institutional responsiveness to the needs of society, the local community, and learners.*

  The newly designed college is a steward of public resources that are to be used for public benefit. There is a need for systems that can learn about their clients, about knowledge, and about opportunity. To make this possible there must be a transformation of governance at all levels. We see this clearly in the call for "institution-wide accrediting bodies to transform themselves from organizations that purport to accredit the 'quality' of the institution into bodies that determine whether the institution has in place procedures and practices that enable it to learn about itself" (Graham, Lyman, & Trow, 1995, p. 18). Within the organization, governance takes place in a series of conversations where individuals and groups evaluate their work and explore new opportunities. These conversations can be shaped so that they flow toward decisions that change processes, programs, or even the direction of the organization (Ford & Ford, 1995). The challenge of organizing for governance is to put in place a structure and processes that continually nurture quality and community. It means building shared responsibility for continuous change as the society, local community, and learners change.

New Designs for the Learning Organization

As with the learning process, two existing strategies of organization of learning will be used to illustrate the design specifications for learning organization in practice. Each represents attention to different aspects of organizing for learning in imaginative ways.

Learning Enterprises

Saint Mary's University (n.d.), with headquarters in Winona, Minnesota, portrays and manages its operation as a solar system with its sun being its mission statement (not the founding campus or the board of directors and central administration). The university is made up of many enterprises rotating around the mission statement, and essentially operating as somewhat autonomous units (as long as they relate to mission) in terms of costs and revenues. With this way of thinking about learning organization, small, responsible communities are developing with the flexibility to be responsive in unique ways to their clients and feeling free to operate in sensible ways. Enterprises can easily come into existence or be discontinued in response to needs and without major disruption of the rest of the organization.

Satellite Learning Centers

The San Diego Community College District delivers nearly half of its instruction in 450 satellite learning centers blended into the city of San Diego and its surroundings. These centers are located in strip malls, churches, fire stations, K-12 schools, government agencies, workplaces, housing units, and a host of other settings. In this learning organization, shared learning environments are a mutual gain, access to learning is significantly enhanced, and opportunities to contextualize are often very convenient.

Summary

In this chapter, the implications for organization of learning were presented for careful review and discussion because they call for some major changes in higher education. If the learning context, signature, outcomes, and process are taken as givens, then supportive learning organization must be created. Areas of organization particularly noted were organization of learning time, students, staff, learning settings, learning processes, technology, physical environment, decisionmaking, and governance. The attributes of a learning organization, in the Senge sense, were brought to play in showing the contrast between focusing on learning as compared to teaching. Key themes running through the recommended design specifications for learning organizations were flexibility, decentralization, community, integration, and access.

CHAPTER SEVEN:
LEARNING PARTNERSHIPS*

The purpose of this section is to define and apply the construct *partnership* to NDTYI. Research and best practices relating to partnerships in education and other inter-organizational contexts are reviewed. The meaning of being partners, the process of partnerships, and the links between TYIs and various categories of partners are explored. Design specifications for learning partnerships follow from this review and exploration. Finally, examples of new designs for learning partnerships are presented.

Purpose of Learning Partnerships

One of the major assumptions underlying NDTYI with direct implications for learning partnerships is the notion stated by Wheatley and Kellner-Rogers (1996) that, "everything participates in the creation and evolution of its neighbors. There are no unaffected outsiders. No one system dictates conditions to another. All participate together in creating the conditions of their interdependence" (p. 14). The point is that NDTYI has little opportunity of being realized without serious and constant attention to the inevitable relationships among the major players inside of TYIs (e.g., students, faculty, administrators, support staff, and governing boards) and the TYIs themselves, as well as relationships with other organizations. In reality, partnerships may not be a sufficiently powerful enough concept to describe the complex and dynamic patterns or web of relationships that must be considered, the symbiotic nature of relationships that must be sought after, and the responsive and supportive infrastructures that must be nurtured to reach the learning outcomes that have been set forth earlier in this report.

The purpose of defining an element in the design process labeled "learning partnerships" is to bring as much attention to the importance of partnerships as to other more typical elements of educational design such as learning outcomes, learning process, and learning organization. As with all of NDTYI, the role of learning partnerships proceeds from the era of which we are a part. In the current knowledge era, creating, processing, and distributing information have become the work of millions (Matthews & Norgaard, 1984). In the agrarian age, production was rooted in the family unit; in the industrial age, production was organized around anonymous fabrication. Our current age is transformed by the conveyance and alteration of information. People and organizations and their interrelationships have become the focus of production.

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* The initial draft of this section was prepared by Jan Gullickson with advice from George Copa. Subsequent revisions were made by George Copa.

For example, looking at internal partnerships in British Columbia, Canada, Capilano College developed a partnership, termed a *covenantal relationship*, among faculty, staff, administration, students, and its governing board (Jardine, 1995). A covenantal relationship was to move the college from hierarchical interactions among stakeholders to one that "tolerates risk and forgives errors," making the organizational culture "hospitable to the unusual person with unusual ideas" (p. 13). At the same time, the provincial government passed legislation assertively encouraging faculty, staff, students, administration, and governing boards to consult and advise each other as partners in the participative management of colleges. This legislation responded to a call for community ownership and public interest in postsecondary education as well as collegiate fiscal responsibility and responsiveness.

A partnership-centered approach to TYI management should extend to student learning. Attending to the student as customer or co-producer means that programs are developed quickly; planning cycles match the economy's and culture's changing needs; competency-based learning replaces seat-time-based learning; the learner is very active in the design of the learning experience, and information technology becomes a regularly used tool (Jardine, 1995, pp. 30-31). The role of learning partnerships in the design process for NDTYI originates in this notion of inclusive internal and external participation of important stakeholders in an information-abundant setting.

Process of Developing New Designs for Learning Partnerships

Developing the design specification for learning partnerships involved reviewing the research and best practice on educational partnerships, particularly in higher education; a focus group interview with TYI faculty and administrators and community representatives; and a TYI site visit and discussions by the National Design Group.

Focus Group Findings

During February 1996, a focus group with attention to learning partnerships was conducted at Miami-Dade Community College with participants from the Entrepreneurial Education Center, Kendall Campus; Microcomputer Education for Employment of the Disabled (MEED) Program; Business Advisory Council of the MEED Program; Metro-Dade Recreation; Metro-Dade County Courts; and Medical Center Campus. The focus group participants made the following points in discussing the characteristics of successful learning partnerships:

- Design of an educational program should begin by first going to the community and asking what is needed.
- The community should be involved beyond visits to the classroom by helping to select students, design the curriculum, evaluate students, arrange internships, and find employment opportunities.
- Partnerships should include both public and private sector entities.
- Service learning should be considered as a form of learning partnership entailing service to the community and mentor assistance from community-based volunteers.
- An infrastructure of staffing (e.g., coordinators, support), communications, and expectations should be in place to support learning partnerships.
- In order to tap the resources available through partnerships, the gap between an "academic attitude" and a "business perspective" will need to be bridged.
- Because the community college is located very close to the heart of the community, many of the community's problems should be seen on the college campus and readily serve as a basis for partnerships.
- The college president should be very supportive of developing partnerships.
- The attention to partnerships should move from isolated activities to being institutionalized throughout the college.
- Advisory committees are one form of partnership and should have representation from government, youth services, public schools, and the private sector.

- Good external partners should see themselves as a source of ad hoc faculty for the college.
- The whole community as an entity should be thought about as a partner, with the college being a major player in community development.
- The organization of the college by disciplines should be done away with to really become a partner with the community—the community interests are interdisciplinary.
- Being responsive partners means that the college should move away from the policy of uniformity controlling the college (e.g., everything needs to be translated into credits, one equal to another).
- Partnership should be based on an exchange. At first the exchange with the student is tuition for learning. The college and its partners must move beyond this initial stage to thinking of the exchange more broadly—the community being a source of learners and the college helping to make a fundamental difference in the community. With this view, there can be a snowball effect. The exchange should include knowledge and expertise, resources and rewards, visibility, good public relations, and power. There should be a mutual benefit—a win/win relationship.
- Partnerships require many dedicated people in the community and college.
- In designing partnerships, the college should pay attention to the dreams of students—what they need and want. The college should consider many options for partnerships, rather than limiting itself to one approach.

National Design Group Discussions

The National Design Group began its attention to learning partnerships with a visit to two of the campuses of Miami-Dade Community College. Its assignment was to look for implications for desired characteristics of learning partnerships (among other aspects). Following the visit and the sharing of the focus group's results reported above, which had been conducted by project staff the previous day, the National Design Group discussed the basis and forms of design specifications for learning partnerships. The following points emerged from the discussions:

- Partners for TYIs should include both public and private sector representation.
- Partnership relationships should provide for both formal and informal agreements, depending on needs and situations.
- Partnerships should focus on learning and all of the support services learners might need to be successful (e.g., child care, transportation, health care, income supplement, tutoring, counseling).
- Partnerships should be flexible to increase capacity to leverage resources, ensure mutual benefits, and maximize contribution to learning and community development.
- Partnerships should increase effective use of adjunct faculty and other "knowledge resources" of the community.
- Partnerships should provide for reciprocity, clear expectations, good communications, and consensus decisionmaking.
- Partnerships should not begin with the educational institution asking for money, but center around ways to engage the community in the learning experience and the college in community development.
- Partnerships should be encouraged to move from short-term relationships to longer term ones.
- Partnerships should be integral to the financial planning for the institution.
- Partnerships can include sharing of spaces such as sports fields, cafeterias, meeting places, parking lots, and land.
- Partnerships should not be exploitative of learners.
- Partnerships should be monitored and assessed on a regular basis for effects on learning and impact on social and economic aspects of community development.

Both the results of the focus groups and the discussion by the National Design Group, along with the review of research and best practice, were used by project staff to develop an initial draft of design specifications and to seek ideas for exemplary new designs. The National Design Group had an opportunity to review the design specifications at a subsequent meeting before they were put in final form as presented later in this section.

Connecting Learning Partnerships to Previous Elements in Design Process

Walk into the classroom of the first-grade teacher of today who is preparing students for TYIs of tomorrow. The teacher sits by the window rocking a student and listening as a favorite book is read. In one corner, a group of students builds towers with assorted construction materials. In another, students are sharing their writing assignments, rich with metaphors describing science. In another room in the building, other classmates are using interactive instructional technology to manipulate fractions of objects. In another classroom, students from the Nutrition Club are demonstrating the food pyramid and outlining their leadership roles in setting school lunch alternatives. Parents, community members, educators from the neighboring university, other school staff, third-grade mentors, and the students themselves assist the teacher in preparing TYI students for the year 2008 and beyond.

One teacher and 25 or more students require a linearly structured teaching environment: all desks in a straight row and facing forward; all students on the same page; one person speaking with the others in silence so all can hear; and uniform learning expectations determined by content, calendar, and page number. However, add some partners, a parent, a secondary-school volunteer, a scuba-diving grandparent, and a local computer operator, and learning possibilities increase exponentially.

More than any other human endeavor, education is relational and founded on trust. The context of learning is information-laden, global, and diverse. The NDTYI's signature represents people connected to learn over a lifetime. This view of learning is not solitary. The fictitious hermit needs only to learn what enables continued survival. In a society composed of families, communities, cultures, and intertwined futures, learning outcomes are owned by all. Many should be partners.

In keeping with the design-down process, and focusing more specifically on the link between learning organization (the previous design element) and learning partnerships, the following implications can be drawn:

- Organization elements should be aligned with the learning context, signature, outcomes, and process. Some of the implications of each of these previous design elements for learning partnerships have been highlighted above.
- The organization should be responsive to the unique learning plans of learners and recognize and use their prior experiences. The implications of this design specification include providing for the important role of the learner as partner in designing and implementing learning experiences and establishing the role of partners in increasing the number of approaches to learning that will be required in order to respond to unique learner plans and prior experiences.
- Learners should be organized in a way that supports formation of strong learning communities. For the development of strong learning communities, partners must have equity with institutional staff in recognition, power and influence, and presence in the learning experience. Partners must feel equal in the learning community.
- Learning processes should be organized in ways that support integration of general and technical subject matter areas and collaboration between the institution and the community. The implication for learning partnerships is that with a more integrated curriculum, the needs (e.g., problems, challenges, opportunities) of partners can be a part of the learning experience in a more realistic and feasible way; the partnerships should come more easily and smoothly and be more productive to partners, learners, and the educational institution. This should mean more partnerships are expected and forthcoming, both traditional and in many new and innovative formats and exchanges. The call for collaboration between the institution and community means that partnerships need to cut across and involve all aspects and dimensions of the community and bring attention to the mutual relation of the TYI in developing community and the community in developing the TYI.
- Learning time should be organized to support flexibility (e.g., just in time, learning in breath and depth). For this organizational design specification to work,

partnerships must be flexible and responsive to learning needs. A key implication is focus on the infrastructure supporting partnerships, perhaps more then specific partnerships. Attention must go to building the trusting relationships, informal communication networks, competent and committed staffing, and flexible (and invisible) financial policies to support the constant and dynamic creation and use of learning partnerships to permit organization of the learning time necessary in flexible learning processes.

- The staff should be organized to support their becoming knowledgeable of learners, building strong learning communities, using the community as a learning context, and integrating subject matters. The implications for learning partnerships are to begin to seriously and consistently think about and act in ways that make the partners part of the learning staff. The partnerships must be personalized to the needs of each learner, be built on an expectation that much more of the learning will occur at partners' sites, and be required to integrate curriculum and subject matter experts.

- Technology should be organized to provide ready access to information and resources to support learning. Partners will need to be involved in developing learning technology plans (e.g., equipment, maintenance, updating, training, ownership) so that the needed technology is at-hand when, where, and how it is needed.

- Environments should be organized to create flexibility, to access multiple learning settings, and to build the learning community. This organizational design specification, along with several others, reinforces the importance of learning partnerships in realizing the learning signature and outcomes of NDTYI. Partners will need to understand that they are expected to provide effective learning settings and contribute to building the learning community.

- Decisionmaking should be organized to involve learners and be placed close to those most affected by consequences of the decisions. As partners become more important players in the design and setting for learning, they will need to be much more responsive to involving the learner in making decisions about these matters. As more of the learning occurs in partner settings, the expectation that decisions be

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made as close as possible to those affected will mean a more active and influential role for partners in decisionmaking.

- Governance should be organized to support continuous institutional responsiveness to the needs of society, the local community, and learners. This organizational design specification serves to again underscore the importance of partnerships, an inclusive notion of partners, and their role in continuously improving the TYI.

As can be seen, the design specifications for learning organization have direct implications for learning partnerships, and vice versa. In order to make the expectations for learning outcomes, process, and organization at all feasible, partners and effective partnerships must be considered of primary importance. The next section introduces some of the key concepts and best thinking and practices of developing and sustaining learning partnerships.

Key Concepts Regarding Learning Partnerships

Pertinent literature about partnerships is bountiful and multidisciplined. In addition to education writings, the private sector, community-based organizations, and health fields were used as sources of information. Finally, recent publications about the role of technology in groupwork were instructive regarding the tools needed to perform and document partnership work.

One of the most useful sources of literature concerning partnerships was found outside education literature in the interorganizational relations writings of organizational theorists. Beginning with Emery and Trist's (1965) discussion of the effect of environmental turbulence on organizations and organizational coping mechanisms, theorists have examined the emerging relations formed among organizations. According to Whetten's (1981) seminal review of the field of interorganizational relations, research began with case studies of practitioners and expanded in the 1960s. Organizations form relationships with other organizations to increase coordination, to manage external resources, and to control environmental uncertainty. Almost two decades ago, Whetten found that the demand for education and training in a community influences the density of relations in a network of agencies.

Other prominent writers in the area of interorganizational relations include Van de Ven (1976), later joined by Walker (Van de Ven & Walker, 1984) and by Ring (Ring & Van de Ven, 1989; Van de Ven & Ring, 1991); Gray (1985, 1989), later joined by Hay (Gray & Hay, 1986); and by Wood (Gray & Wood, 1991; Wood & Gray, 1991); and Mattessich and Monsey (1992). Because legislation and client service needs led health, social service, and community-based organizations to form interagency partnerships earlier than education, these interagency activities provide models for educational counterparts (Magrab, Flynn, & Pelosi, 1985).

In education literature, much of the writing about relations between educational and non-educational institutions has been anecdotal, many containing lists of requirements for successful partnerships. Gullickson (1997) found in her study of partnerships among K-12 and TYIs that "many of the 'gotta-haves' for collaboration successes listed in education literature are not necessary conditions. Rather, they may reflect the writers' perceptions of what made the reported collaboratives work" (p. 136).

One education writer who has developed a model for partnerships is Goodlad (1991). His model consists of a concept, a purpose, an agenda, and a structure for partnerships involving educational institutions. The concept is a formal, mutually beneficial interinstitutional relationship. The purpose is the process and structure of equal parties drawing on each other's strengths to advance self-interest. The agenda is to solve problems affecting the exemplary performance of each party. The structure is the organization of the relationship. Many education writers focus on the structure of partnerships with less attention to their concepts, purposes, or agendas (Gullickson, 1997).

Pease and Copa (1994) depart from the emphasis on structure in their description of the characteristics of partnerships. The characteristics involve a level of cooperation (purpose); shared goals, vision, or enterprise (agenda); mutual respect and trust (purpose); contributions of resources (agenda); shared power (purpose); and shared accountability (purpose). By suggesting a less significant role for structure in partnerships, these authors move closer to the design specifications, which will be recommended for learning partnerships in NDTYI.

There are many different ways to view the multifaceted gem called partnerships. Held one way, the light of the gem produces insight about partners. Held another, the process of partnership is reflected. Turned yet another way, the benefactors and beneficiaries of partnership glisten. The following portions of this section offer perspectives from these three views.

Partners

One way to talk about learning partnerships is to examine partners. In NDTYI, partners include the learner partner, the intra-institution partner, and the inter-institution partner. Among the design specifications for learning outcomes presented in Chapter Four are outcomes that are directed toward the context and challenges of the 21st century and that represent goals for all learners in TYIs. The new designs for learning outcomes developed by NDTYI include working independently and collaboratively. Learning partnerships begin with the learner.

Learners are asked to use new skills as they build partnerships. Rather than acting as receptacles for facts, they must process information. They must use information about an issue and its culture and other expertise to create knowledge. Learners with wide ranges of experiences and talents are placed together in TYIs. The opportunities for partnerships among learners abound. Partnership-making is learned, assessed, and valued.

The next type of partnership is intra-institutional. Underlying this type of partnership is the collaboration of teachers, schedulers, media specialists, facility planners, administrators, lab technicians, management information specialists, and other educators. Teachers of different subject areas must integrate curricula. Students will be unaware (and not concerned) that they are not in a sociology class, business class, human services class, or an automotives class. Teachers, facilitators, and resources will be available as needed and ordinarily via technology and over distances. Draft solutions will be crafted electronically for the groupwork. Facilities and equipment allow for simulation, anytime meetings, or virtual meetings. Learning materials will be obtainable over distances. Learners will employ multimedia presentation skills and equipment. This kind of intra-institutional partnership is not very common in TYIs today. Badway and Grubb (as cited in Dykman, 1997) found only 27% of surveyed community colleges had curricular examples of integrated academic and occupational subjects. Only 12% of the colleges said that they purposefully integrate these areas.

This kind of a learning experience also brings another set of partners to the "virtual" table: inter-institutional. An example would be a sociology student may be in Toronto, a business student may be in Milwaukee, an automotive student may be in rural Nevada, and a human services student in Pittsburgh. An expert on preparing automotive technicians may live in Germany. A person on the jury assessing or evaluating the solutions may live in Minneapolis. Some of the resources for the solution may reside with the National Automobile Dealers Association. A companion problem-solving team may exist at a high school in Alaska. Business owners, interested in preserving their family automotive businesses, may have resources to contribute. And, finally, the competencies gained through this learning experience assignment may be recognized by other educational institutions and by business and industry.

Through the design process, room is made for all three learning partners—learners, intra-institutional, and inter-institutional. Few partnerships should be constructed without representatives from each partner group.

Partnership Process

The partnership process represents a second perspective of partnerships. Process and purpose may conflict or become lost in one another when designing learning partnerships for TYIs. Almost without exception, however, the purpose of learning partnerships in NDTYI should be to improve student learning. The value of a partnership should be demonstrated in the answer to the question: What is the effect on student learning as a result of the formation or activities of this partnership? If the focus of a partnership is on the institution and the community's desire to build a wellness center, rather than that the institution and the community want to improve the health and wellness competence of learners and other community members, something is lost. If the focus is on increasing the amount of equipment donations, rather than securing equipment to improve learning, vital considerations are overlooked. A learning focus is vital to successful learning partnerships.

The process of educational partnerships has both a political and a practical side. Ignorance or neglect of either side may be fatal to a partnership. Practically or politically, educational partnerships are often formed in response to a need for resources (Bodinger-deUriarte, Fleming-McCormick, Schwager, Clark, & Danzberger, 1996, p. 2). Each organization may be required to change policies and procedures to accomplish the work of partnerships. The partnership will need to fit the culture of the community and may represent the blended cultures of the organizations. Often, organizational boundary spanners may be the source of innovative partnerships. A shared vision and commitment may overcome design flaws. Partnerships may be institutionalized even with changing membership or without clarity. Leadership is critical in a complex partnership and is most successful when it is evidenced as commitment rather than facilitation. Having committed and skilled staff to do the work of the partnership is also critical to its success. Other important activities are identifying and solving problems, establishing flexible planning, breaking complex partnerships into components, and giving and receiving feedback to strengthen partnerships.

After reviewing best practices, Bodinger-deUriarte et al. (1996) suggested a three-step process to partnership formation and functioning. First, participants should conduct a needs assessment and reach consensus on expectations and project goals. When partners do not have a common view of the problem, implementation issues are more likely to arise. By conducting a needs assessment, discussion about the project needs and goals, participant sorting of ideal and real expectations, and information sharing may occur.

Next, strategic staffing should be arranged around partnership needs (Bodinger-deUriarte et al., 1996). Identification and recruitment of participants are often neglected but unavoidable tasks. Management and technical staff charged with the work of the partnership should know what to do, how to do it, and be given resources to continue their understanding throughout the process. Both commitment and contribution levels from staff should be clear.

Finally, necessary activities should be determined and implemented (Bodinger-deUriarte et al., 1996). To implement activities, staff must be matched to tasks and trained. Matching technical staff or content assistance with project goals is particularly important. Pertinent to NDTYI, "for projects concerned with systemic reform, including curriculum and instructional improvement . . . , staff development is especially important because without training and support it is difficult for teachers to initiate and maintain any meaningful change in practice" (p. 31). The strength of the partnership is not necessarily related to the number of its activities. Rather, first relationships must be built or old relationships rekindled around new goals. An existing network may be expanded to accommodate a new project. Effective partnerships are relational and trust-bound.

The process of partnership occurs each time a partner associates with another. Relationships are constantly checked and balanced. Gains and losses are evaluated. Resources are counted and recounted. At times, attention to process may overshadow attention to results. This is especially true in learning partnerships.

Partnership Benefactors and Beneficiaries

The third perspective in learning partnerships is that of benefactors and beneficiaries. In the best partnerships, these roles are not always clear. This section addresses the benefactors and beneficiaries of partnerships.

Families

Copa (1995) describes "parents and other family members as important sources of information and opportunities" (p. 10) for learners. As volunteers in the learning process, families may provide opportunities for contextual learning, expertise in learning outcome rubrics, and support for learning outside and inside the TYI. NDTYI emphasizes family-centered as well as learner-centered services and advising the TYI can be a place of multigenerational gathering and learning. NDTYI is concerned about building families that care about learning and institutions that care about families.

Connecting families as partners in the NDTYI process is not episodic. Like most other design elements, fundamental change and integration will occur as a result of forming partnerships between the TYI and families. Effort and other resources are required. For example, imagine the following learning opportunity:

> As part of a learning outcome, learners are required to demonstrate effective decisionmaking. Learners investigate teacher and other instructional sources for effective decisionmaking facts, knowledge, and evaluation criteria. They examine decisionmaking presentations. Family members also are introduced to decisionmaking information as part of a family-centered curriculum. Together with their families, learners select an authentic decision to demonstrate their newly bolstered skills. All participants, including family members, evaluate the effectiveness of the process and of the learning. Opportunities for continued learning are available electronically. A next level of outcome is suggested for those wanting to continue after satisfying the first outcome threshold.

Business and Industry

The roles of NDTYI and business and industry partnerships settle around economic and educational development. Business and industry do not donate to learning partnerships but, rather, invest resources and tie them to future gains. Partnerships result in long-term pay-offs and operate with varying levels and kinds of activities over time. Education already receives more than a third of corporate giving as part of enlightened self-interest (Brumbach & McGee, 1995).

TYIs can serve economic development functions by (1) performing basic and applied research, (2) offering technological and management assistance, or (3) providing education and training programs (Powers, Powers, Betz, & Aslanian, 1988, p. 15). All three functions are among existing capabilities at Iowa's Kirkwood Community College: contracted training to meet specific business and industry needs, training for new employees, retraining for existing employees, business and industry pretraining analysis, technical assistance and consultation, pre-employment and pretraining employee assessment, research and development, and a joint center on quality (Ovel & Olejniczak, 1992, pp. 29-30).

In Canada, the Canadian Network for Total Quality (CNTQ) was formed in 1991, in response to an economic downturn, to assist Canadian businesses in global competition (Bourgeois & Gauvreau, 1993). Operating at the sector, community, provincial, functional, and national levels, the CNTQ meets the needs of private businesses, government agencies, public entities, and community and labor groups. Because of its inclusive and comprehensive nature, this network is able to cut across, over, and through the economy to raise quality standards. One of its many joint products is a catalog of all total quality courses available through CNTQ members across Canada.

Powers et al. (1988) present three reasons for education to seek partnerships with business and industry: (1) to improve financially; (2) to improve instruction, research, and the advancement of knowledge; and (3) to increase the numbers of learners in high demand career fields. Business and industry may support TYI or TYI learners financially, through volunteer services, joint programming, shared staffing, conference sponsorship, recruitment, and shared facilities. Specifically, employers are interested in the work ethic, basic literacy skills, and technical competencies of learners.

Business and industry partnerships may experience conflict in these areas: project management, institutional policies and practices, contractual agreements, administrative oversight, personal integrity, and professional responsibility (Powers et al., 1988, p. 170). During the formation of partnerships, these areas should be raised as potential "hot spots" to be managed as they arise.

For learners, partnerships between business and industry and TYI mean more tangible resources, greater flexibility through workplace learning and other possibilities, better prepared teachers, and a cumulative effect of learning from one place to another (Brumbach & McGee, 1995). Again, learning improvements are the primary consideration.

Work-based learning is a mode of partnership with business and industry that is gaining in visibility and impact (Bragg & Hamm, 1996; Bragg et al., 1995). Recommendations for policy changes to assist in facilitating work-based learning included attention to fiscal resources, incentives, clear standards and guidelines, and support for government and professional associations (Bragg et al., 1995, p. x). Based on case study research in eight TYIs, the following factors were found to contribute to effective work-based programs:

- Strong program leadership
- Exclusive connections between the program and its environment
- Frequent and effective communication with local employers
- Beliefs about employee excellence
- An effective school-based component
- Adequate and diverse financial support
- Innovative program and pedagogical features (Bragg & Hamm, 1996, pp. vi-viii)

Other Educational Institutions

Next to business and industry, perhaps the greatest expression of interest in partnerships has occurred among TYI and other educational institutions. Ironically, TYIs appear to face their industry neighbors with less reticence than their educational siblings. However, the strongest learning partnership gains and ultimate learner benefits, may flow from the middle school next door rather than from the Fortune 500 company down the street.

K-12 Schools

Edgar and Parnell (1996) hold up Ohio as a benchmark to establishing a statewide approach to Tech Prep. The Ohio model contains six components accepted by all stakeholders that are significant to the NDTYI process. First, the emphasis is on systemic change at both the K-12 and postsecondary levels. Second, all students are part of the initiative. Third, the partnership is among secondary education, higher education, employers, and labor. Fourth, beginning in grade nine, curricula are progressively coordinated around student career plans. Fifth, academic, occupational, and employability competencies are evidenced at the end of K-12 education and upon graduation from the TYI. Sixth, unduplicated and technically responsive curricula are developed systematically to prepare students through school-to-work, apprenticeship, or associate degree completion. Tech Prep is co-administered by K-12 and higher education administrators at the state level. Local staff training, not only for programmatic needs but also for leadership development, is coordinated statewide. Labor, business and industry, and university leaders are active partnership members. Formative and summative evaluation has been built into the partnership process. As an example of the creativity desired in NDTYI, one Ohio city is granting tax abatements to companies sponsoring student summer internships. Among the reasons this network of partnerships seems to be working are strong state higher and secondary education leadership; clear and supported vision and mission statements; ties to broader education reform; employer and labor support; seamless and contextual curricula validated by industry; and the integration of this movement with others (Edgar & Parnell, 1996).

Other Two-Year Institutions and Four-Year Institutions

Interorganizational theorists suggest that even competitive organizations will form a partnership if participants perceive resource dependence, awareness and commitment to an implementation issue, and consensus on issue resolution (Gullickson, 1997). Participants will come together because a partnership is a vehicle to gain access to resources. Partnership members will forfeit some autonomy for access to these resources. One of the best examples of partnership among two-year and other institutions is the East Valley Think Tank (EVTT) in Arizona. It also serves to support interorganizational theory.

EVTT was formed as a result of the sudden announcement in the fall of 1991 of an air force base closure, making available a 4,000-acre site in Phoenix (Ronan, 1994). A clear vision guided the process as follows:

> The goal would be a one-stop-shopping approach to educational services, with benefits to all segments of education—elementary, high school, community college, university, and adult training. The partnership among the diverse providers of education in this futuristic "mall" would offer education opportunities and enhance the technological skills of students of all ages and abilities. (p. 46)

By July 1, 1993, one university and five community colleges submitted complementary documents requesting transfer of the base from the Department of Defense to the consortium. This partnership was built on a former cooperative relationship among the institutions and included K-12 members as well. An out-of-state member, the University of North Dakota aerospace program, was added as a partner in the consortium.

According to Bodinger-deUriarte et al. (1996), EVTT members have said in hindsight that more time should have been spent on brainstorming and personal networking (Ronan, 1994). They credit the success of the educational consortium to finding a CEO champion, starting and not waiting for ideal conditions, personal contact, informal steering processes, both a hands-on and relational mission statement, mutually beneficial projects, determining funding and staffing needs, embracing an innovative and futuristic community perspective, and meeting to review projects and strategize about the future.

The number and quality of relationships among educational institutions give pause when surveyed. Perhaps insight may be gained during this moment of reflection from a remark made by the chancellor of a Phoenix community college. The original cooperation from which the EVTT was engendered came from a meeting between this chancellor and a local school district superintendent. Teenage pregnancies, drug problems, and climbing dropout rates were threatening the city: "We decided that what we needed most was an atmosphere to think together" (Elsner, 1994, p. 49). There may be no better definition for partnership.

Community and Community-Based Organizations

The Beacon College Project was supported between 1989 and 1995 by the American Association of Community Colleges and the W. K. Kellogg Foundation as an effort to build communities both within and outside TYIs (Barnett, 1995). Twenty-six TYIs nationally were selected to collaborate with others across the country and internationally to design and implement change to enhance communities.

Among the recommendations resulting from the efforts of more than 600 institutions in 36 states are that community building should be part of the mission of TYI and that training for TYI leaders should include community-building techniques (Barnett, 1995). Service learning and issues affecting workplace and interpersonal relationships should become parts of instructional methodology and content. The TYI should be a part of the heart of the community, and partnerships can be a form of connective tissue.

Roueche, Taber, and Roueche (1995) surveyed 14 colleges known for community partnerships to describe their activities. They found that the size and nature of the collaborations varied from two to 30 members among business and industry, health care, government, the military, the religious community, and other countries. The partnerships were formal or informal and very new or as old as 20 years. Resource use, college leadership role, and formality also varied. They also found that the term *community* was not a traditional service district or area, but could refer to almost any group of constituents. Differing terms were used to refer to the partnerships: collaboration, alliance, consortium, and convention. The partnerships may have been formed for economic, community, individual, organizational, or resource development. Variety appeared the constant. The authors concluded that "community colleges that do not master community collaboration and partnering simply cannot survive in times of escalating costs and diminishing sources of funding" (p. 39).

This section examined the benefactors and beneficiaries of learning partnerships. Many examples of best practices exist in TYI today, and some are included later in this chapter. However, the mainstreaming and thoughtful use of partnerships require constant and serious attention in NDTYI. The next section of this chapter provides direction for learning partnerships.

Design Specifications for Learning Partnerships

Exhibit 9 provides the recommended design specifications for learning partnerships. The design specifications synthesize and prioritize what was learned from experts, stakeholders, literature, and best practice.

Exhibit 9
Design Specifications for Learning Partnerships

- *Aligns with learning context, signature, outcomes, process, and organization:* Partnership characteristics follow from and reinforce the design specifications for previous elements.
- *Enhances the learning experience:* Partnerships add value to the learning experience, for example, by making it more authentic, providing opportunities to integrate subject matter areas, ensuring access to up-to-date technology, developing relationships with future co-workers, opening up new sources of knowledge, and leading to smoother transition from education to work, family, and community life.
- *Provides mutual benefit:* Partners are both benefactors and beneficiaries through the partnership activities. All of the partners have some of their needs met.
- *Includes all stakeholders:* The portfolio of partnerships provides opportunities for all of the key stakeholders to be involved with and benefit from the learning experience. Assertive action ensures representation across age, gender, socioeconomics, geography, and cultural background.
- *Bridges cultures:* There is attention to developing an understanding of the values, policies, and practices of all partners and ways they can work together effectively.
- *Leverages resources/results in synergy:* Partnerships result in additional resources/results for each partner or the same results for reduced resources—one plus one adds up to more than two.
- *Provides many ways of contributing:* Partnership building is open and encourages multiple ways of adding value to the learning experience such as sharing risk, communicating standards, teaching and mentoring, providing support services (e.g., child care, transportation, subsidized income, or tutoring), giving equipment, and providing scholarships.
- *Builds supporting infrastructure:* Partnerships-related strategies focus on sustaining alliances and the widespread responsibility to build new partnerships when and where they are needed. Developing a supportive infrastructure means opening up opportunities for good communications, establishing trust, involving all staff, providing ongoing training on partnerships, removing policies and practices that provide disincentives for partnerships, engaging in continuous quality improvement of partnerships, encouraging both formal and informal agreements, and ending partnerships graciously.
- *Impacts the entire community:* Partnerships reflect the dynamics of community with its local, state, national, and international dimensions. There is serious and strategic attention to stewardship of the community through partnerships.

New Designs for Learning Partnerships

As with the other elements of NDTYI, we looked to our National Design Group for examples of learning partnerships in TYIs that exemplify the design specifications for partnerships that were being recommended. Three that were suggested are briefly described below.

Technology Incubation Center

The Technology Incubation Center at the downtown campus of the San Diego Community College District takes up the space formerly occupied by the Auto Mechanics Program. The space was remodeled to serve as a temporary home to ten small businesses. The Technology Incubation Center is part of a state and city sponsored, regional, economic-development strategy. The college provides space with secretarial, small business management, and computer support. The businesses are selected by competitive proposal; they can use the sheltered environment of the college for three years. Then, they move into the city and new business ventures are selected for nurturing at the college. During their stay at the college, the businesses have access to faculty and students to help with their work. Here we have a learning partnership with many players, both learners and supporters; a wide variety of real work experiences to draw upon in designing learning; and win-win relationships for the learners, wider community, and college.

Regional Training Center

One of the programs of the Rocky Mountain Education Center, located at Red Rocks Community College in Lakewood, Colorado, is the OSHA (Occupational, Safety, and Health Administration) Training Institute serving the western United States. The OSHA Training Institute is a partnership of Red Rocks Community College, Trinidad State Junior College located in Denver, and the federal government. The Training Institute is located in what was formerly the maintenance space at Red Rocks Community College. Through a competitive grants program, the consortium of two colleges has gained considerable resources and regional visibility for very high-quality training in a major industrial sector. And the federal government has a source of dependable training in a closely regulated area of their authority. The colleges and the federal government are all closely involved in designing the curriculum and delivering the OSHA training.

Campus-Based Business Center

Kirkwood Community College in Cedar Rapids, Iowa, has taken a novel approach to learning partnerships by using its campus and central location in the United States as an asset. It has entered into a long-term, formal agreement with the AEGON Corporation, an international insurance organization, to build a $10 million corporate data center on the campus. The Center houses the mainframe computing center for AEGON USA, with some of its employees working on the Kirkwood Campus. The lower level of the building houses the Kirkwood Information Technology Center, which serves as a training facility for both the corporation and the college. The partnership results in maintaining an up-to-date information technology training center on the campus at a low cost to the college and access to internship settings for those in the insurance-related educational programs. The partnership is also a source of adjunct faculty as well as a faculty development setting for regular college faculty.

Summary

This section has defined and broadened the application of the construct *partnership* in relationship to NDTYI. The role of learning partnerships is central to the effectiveness of TYIs in the knowledge age. Although there are no standard patterns for learning partnerships, the design specifications presented in this chapter should guide their formation and evaluation. Clearly, the implementation of learning partnerships makes possible what may appear, at first glance, as impossible in NDTYI.

CHAPTER EIGHT:
LEARNING STAFF AND STAFF DEVELOPMENT*

The purpose of this chapter is to describe and rationalize a set of design specifications for the learning staff and staff development for NDTYI. The recommendations regarding staffing and staff development are to follow from and be consistent with the design specifications for the previous design elements. The design specifications for staffing and staff development were formed from the results of a focus group interview with TYI staff and administrators, National Design Group observations and discussions, and a review of best practice and research in the United States.

Purpose of Learning Staff and Staff Development

To the extent learning experiences are planned and guided by someone other than or with the learner, there is a need for a learning staff. And for the staff to keep up-to-date with a changing context, changing learners, and changing knowledge base, the staff must be continually involved in renewal or professional development. The purpose of learning staff and staff development as an element of the design-down process is to underscore the importance of the staff to NDTYI. If an institution is not willing to make the needed changes in staff and the investment in staff development, then undertaking the NDTYI process is ill-advised. The attitude and competence of staff with regard to NDTYI are central to feasible implementation.

Process of Developing New Designs for Learning Staff and Staff Development

The recommendations presented for design specifications regarding learning staff and staff development are carefully drawn from the design recommendations of previous elements of the design process as well as the focus group findings, National Design Group discussions, and the review of best practices and research. At this stage in the design process, the implications for each subsequent element in the design process are building to the point of being fairly prescriptive. A particular path is being taken with regard to the design of the TYI, and the usefulness of more general ideas from focus groups, and the review of best practices and research are more limited. Rather, the focus is more narrowly on the practices, insights, and research that is more or less specific to the direction being taken in the design process. With this in mind, the next section will review the results of the focus group interview on staff and staff development and the discussions of the National Design Group.

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* The initial draft of this section was developed by Sandra Krebsbach with advice from George Copa. Subsequently, changes and major additions were made by George Copa.

Focus Group Findings

The focus group on learning staff and staff development took place at Miami-Dade Community College at the same time, but a different place, from the focus group on learning partnerships. The interview was with faculty and administrators, including representation from the Teaching and Learning Center, which will be described later in this section as representing an exemplary new design for staff development. The focus group interview was formed around the question of desired features of staff and staff development when the learning process in TYIs was particularly effective. Key points made by the participants in the focus group were as follows:

- The learning staff should include everyone who is responsible for enhancing student learning—that includes all of the staff on the campus (e.g., full- and part-time faculty, secretaries, counselors, admissions staff, administrators) as well as those involved in setting up and mentoring internships and those at distance learning sites.
- Continued learning should be expected of all members of the learning staff.
- Staff development should be integrated with student learning and occur in multiple settings.
- Standards of excellence for staff development relating to various functional responsibilities (e.g., teacher, support service, administration) should be developed and used.
- Support services (e.g., someone to take over responsibilities while one is away for staff development) and time provisions should be available to enable staff to participate in staff development.

- Staff development should occur in a wide variety of ways, including job exchange, both horizontally and vertically in the organization, inside and outside the college.
- The community should be seen as a place for staff development.
- There should be a collegial approach to the way that staff operates, with much more interdisciplinary contact and contact between staff on campus and in other learning sites.
- There should be much wider involvement of the staff in the institutional decisionmaking process.
- A sound financial basis is critical to providing the needed staff and continued staff development.
- The cultures of the day school staff and the night school staff should be blended.
- Communication should be such that changes in business and industry and in four-year institutions do not come as a surprise to the TYI staff.
- Staff functions should include helping learners get jobs (e.g., placement) following training.
- There should be better use of staff resources; one way is to relate closely to the staff in K-12 schools and in four-year colleges and universities.
- Staff should have a strong voice in making decisions about staffing and staff development.
- There should be a more innovative, flexible, and creative staff for TYIs in the future.
- Staff should be able to teach, relate effectively with, and care about and respect students.
- Staff should believe that all students can learn and that students come already knowing some things.

- There should be an assessment process for staff to see that they have the skills needed initially for the responsibilities that they are undertaking and that these skills are kept up-to-date and advanced.
- Continued employment of staff should be based on performance.
- Staff members should be able to work as members of a team and do the needed research to resolve professional problems.
- Staff should be sufficiently entrepreneurial in order to design learning experiences that are successful for a wide range of students and with little failure on the part of students.
- Staff members should have a "home" in the institution, and it may not be the traditional departments; they should be able to form interdisciplinary learning communities.
- Staff should strive to give students multiple options to learn each area of competence.
- Staff should be informed about the world, involved with students, empathic to student needs, and flexible.
- Staff should belong to professional organizations and do externships in business and industry.
- Staff should be thought of and organized more into learning teams that are crossfunctional in makeup.
- Staff development should recognize nontraditional approaches to development—beyond the university class, workshop, or professional conference.
- Staff development for faculty should include development of leadership skills.

National Design Group Discussions

The National Design Group had the benefit of an oral summary of the focus group interview noted above and a site visit to two of the campuses of Miami-Dade Community College (including the Teaching and Learning Center, which was designed to support and deliver staff development) just prior to its discussion of the design specifications for learning staff and staff development. The following are the major points made during the National Design Group discussion of staff and staff development:

- Institutional research should be conducted and the results shared with all staff members so they are informed about the institution as they try to improve it and ensure accountability.
- Mid-management staff (e.g., presently in the form of department and division chairs) should be "point guards" for bringing and implementing the vision for the institution.
- In order to redesign an institution, it is probably necessary to change and redefine staff roles. Staff development should be in alignment with changes in staff roles.
- The culture of the institution should communicate that all staff members are responsible for learning and the success of the institution, all should take risks, and all should be rewarded.
- Staff development should be directly linked to student development.
- Gains in productivity as a result of staff and staff development decisions should be credited back to the unit making the decisions.
- Staff development should be a shared responsibility, with the staff members carrying some responsibility for it.

The above points of view from both the focus group and the National Design Group were used to draw out the implications of design specifications for prior elements in the design-down process as a basis for developing the design specifications for learning staff and staff development. The results of this deductive process are presented in the next section.

Connecting Learning Staff and Staff Development to Previous Elements in Design Process

The strength of the design-down process is in assuring that each of the design specifications for each of the added design elements contributes to and enhances the specifications for previous elements. There is also the reverse process of checking-up to ensure careful alignment and coherence to the complete design. As with previous elements, the focus at this point is on explicitly examining the implications of the design specifications for learning partnerships (the immediately previous element) for the design specifications for learning staff and staff development. The implications appear to include the following thinking about staff and staff development based on each of the design specifications for partnerships:

- *Aligns with Design Specifications for Learning Context, Signature, Outcomes, Process, Organization, and Partnerships:* Staffing and staff development characteristics should follow from and reinforce the design specifications for previous elements.

- *Enhances the Learning Experience:* Staffing and staff development must be designed and executed in a way that keeps the learning experience a central and overriding concern. Staffing and staff development decisions must always look to the value added to student learning. When partners are involved in the learning experience (and this should be common practice), attention should focus on the staffing contributions that are and can be made by the partners and the staff development that may be needed by partners and institution-based staff to take maximum advantage of the partnership.

- *Provides Mutual Benefit:* Staffing and staff development must provide ways for all partners (i.e., learners, intra-insitutional or inter-institutional) to benefit. Benefits in the form of opportunities to contribute knowledge, support services, and other staffing resources should be recognized and sought.

- *Includes All Stakeholders:* Perhaps this partnership specification has the most significance for staffing and staff development. The implication is that the institution's staff extends far beyond traditional definitions of staff as all stakeholders become involved in the learning process. The boundaries between part- and full-time staff; between on- and off-campus staff; between evening or extension and day or regular class staff; and between faculty and student services, administrative services, and support services should begin to blur. The difference among these typical categories of staff should become less important as they are viewed more as a team or family of staff focused on providing the needed learning experiences. The affirmative action to include representation across boundaries of age, gender, socioeconomic status, geographic areas, and cultural diversity held out for partnerships should be clearly evident in staffing and staff development.

- *Bridges Cultures:* Staffing and staff development must address an openness and willingness to work across the cultures of the various partners. The skill at "border crossing" must be developed, recognized, and rewarded.
- *Leverages Resources/Results in Synergy:* Staffing and staff development should take full advantage of the potential contribution to the learning experience that can be provided through partnerships.
- *Provides Many Ways of Contributing:* Each partnership, actual and potential, should be scrutinized for its possible contributions to staffing and staff development.
- *Builds Supporting Infrastructure:* Staffing and staff development must insist that building and using partnerships and the infrastructure underlying partnerships are essential to the attitude and way of operating for all of the institution's staff. Care should be taken in staffing and staff development to build the communication patterns, trust, and commitments needed to enhance the number and quality of partnerships in the learning experience.
- *Impacts the Entire Community:* Staffing and staff development should recognize and advance the importance of understanding the nature of the community served by the institutions, its needs as a community, and effective ways of responding to these needs in consort with others.

Clearly, the design specifications for partnerships have implications for the design of staffing and staff development. The implications are basic to and have a significant effect on defining staff, how staff members must work together, and what it means to be and remain competent.

Key Concepts Regarding Learning Staff and Staff Development

Educational institutions no longer have a monopoly on learning and learning organizations. Corporate America is being called upon to form learning communities, learning companies, and learning organizations—systems where people are constantly upgrading their resources and updating one another about their current reality (Campbell, 1995, p. 14). The following discussion, taken from Campbell's work, was directed at a business and corporate audience, but the message seems applicable to NDTYI.

Organizations can achieve restructuring by creating new organizational processes that put all aspects of the organization in immediate interactive communication with one another. People from a variety of fields, including some whose values or work styles feel foreign or threatening, will learn with and from these interactions and through this interaction will develop a "more adequate, more complex" response to the given situation (Campbell, 1995). The new organization will require leaders who are comfortable sharing decisionmaking with people who have no special rank or position. It will mean sharing information with colleagues working on similar problems instead of keeping important discoveries to oneself to protect turf. The new organization will require high levels of trust in self and others, so that little time is wasted covering mistakes so that the organization and the learning can move forward. In fact, "The exploration process will require individuals who are trustworthy, change-worthy, and learn-worthy" (p. 24).

For individuals to change and to learn, the educational institution or learning organization will have to develop and foster trust. Galbraith and Shedd (1990) in the article, "Building Skills and Proficiencies of the Community College Instructor of Adult Learners," state that instructors must possess personality characteristics and interpersonal skills that engender an image of caring, trust, and encouragement. Referring to the learning organization, Campbell (1995) says that decisions based on adjustment rather than control will use information and experience. A fundamental question that learning staff will need to ask is, "What does the current situation require?" (p. 24). Knowing how to learn and the learning process will be more important than being right or knowing the right thing to do.

It is the end of "solo" instructors and the beginning of an era of team or ensemble players in the learning organization. Teamwork requires public learning (Campbell, 1995). To be a team player is to be a team learner, placing more value on the team's learning than on the personal needs to be right, to be accepted, or to be in control. Team learners listen, publicly acknowledge mistakes, share perceptions, participate in discussions that raise conflicts to the fore, respectfully differ in public, connect one another to the organization, and become partners to help the organization realize its goals.

The learning staff and staff development are key to the implementation of NDTYI. If the designs are to have congruity, the learning staff will manifest the same qualities and competencies as the learning outcomes, practice the learning processes, organize learning to support the learning process, and be responsible for continually building and using learning partnerships. Staff development will need to be consistent with these expectations:

> American organizations cannot evolve any farther than the individuals who work in these organizations. If we want our institutions to be more change worthy, individual workers will need to undertake the personal learning necessary to perceive change as it is happening. (Campbell, 1995, p. 13)

Educational institutions as learning communities must be caring organizations that are interested in the potential of all members (Orlich, 1989, p. 1). A caring institution will invest in staff development to transform and to change.

The Learning Staff

NDTYI includes all staff in the definition of learning staff—support staff, student service, technical staff, faculty, and administration, as well as outside partners in the learning process. In 1995, the National Association of State Directors of Vocational Technical Education Consortium and University Council for Vocational Education convened a Task Force on Vocational Technical Teacher Education. Their report defined learning staff as "all those who engage learners in purposeful learning activities or operating the enterprises within which people learn" (p. 5). Cross wrote in the foreword to *The Teaching and Learning Enterprise* (Jenrette & Napoli, 1994), referring to a highly successful institutional reform at Miami-Dade Community College, that it was accomplished by "ordinary people." By this she means that existing learning staff, a biology teacher (Jenrette) and a social studies teacher involved in faculty governance (Napoli), both respected by their peers, directed the staff development program—the transformation of an institution.

The community colleges and technical colleges across this country are not going to make wholesale changes in staff; rather, the institutions implementing NDTYI will use a combination of staff development programs, role changes, new hires, adjunct faculty, and new partners to transform the institution. The major difference will be in the level of flexibility characterizing the organization in order to implement new design specifications. Flexibility is necessary because the learning staff will not be able to identify all the unplanned and unanticipated learning needs and opportunities of learners (Galbraith & Shedd, 1990, p. 10). Flexibility will mean flexible time, ability to change roles, and add or use different skills.

As stated earlier, there will be many outside partners in NDTYI. An example of an outside learning partner is the LaGuardia's Co-op Seminars for School-to-Work Programs (Grubb & Badway, 1995). The instructors came from different backgrounds, some from the college, some from local businesses. The students reported that they found the "true stories" of the workplace fascinating (p. 14). The instructors from the workplace were able to teach the customs and folkways of the workplace. Grubb and Badway noted that the outside instructors did not have access to staff development. NDTYI proposes to include the needs of all learning staff in the planning and delivering of staff development.

Current Composition

Of all staff in higher education, 20% are employed in TYIs. Of the TYIs, 91% of staff are employed in public institutions. The institutions that are less than two-year are largely private (70% private) (National Center for Education Statistics, 1996, p. 13). According to the National Center for Educational Statistics, 57% of TYI staff are faculty members. TYIs have a lower percentage of support service professionals than four-year institutions (18% in four-year institutions and 8% in TYIs) (p. 16). From 1970 to 1993, there has been growth in the number of faculty employed by TYIs due to an increase in the number of part-time faculty. In 1993, 64% of faculty employed in TYIs were part-time.

Table 2 is adapted from the National Center for Educational Statistics (1996, p. 9) to show the TYI totals for employees; men and women; full-time and part-time; faculty and non-faculty; and professional and nonprofessional.

Table 2

Number of Total Employees in Postsecondary Institutions, by Level, Sex, Employment Status, and Professional/Nonprofessional Status: 50 States and the District of Columbia, Fall 1989-1993

Number									
Two-Year Institution	Total Number	Men	Women	Full-Time	Part-Time	Faculty	Non-Faculty	Professional	Non-Professional
1989	476,868	226,076	250,801	259,308	217,560	261,295	215,573	334,940	141,928
1991	505,212	235,708	269,504	277,710	227,502	256,095	249,117	355,672	149,540
1993	543,607	247,546	296,061	285,690	257,917	309,958	233,649	387,051	156,556
Percent									
Two-Year Institution	Total Number	Men	Women	Full-Time	Part-Time	Faculty	Non-Faculty	Professional	Non-Professional
1989	476,868	47	53	54	46	55	45	70	30
1991	505,212	47	53	55	45	51	49	70	30
1993	543,607	46	54	54	47	57	43	71	29

Note: Professional staff include staff in the following occupational categories: executive/administrative/managerial, faculty (instruction/research), instruction/research assistants, and professional (support services). Nonprofessional staff include technical and paraprofessionals, clerical and secretarial, skilled crafts, service/maintenance, and other employees. National Center for Education Statistics (1996), p. 9.

Source: U.S. Equal Employment Opportunity Commission, "EEO-6 Higher Education Staff Information" Surveys, 1989 and 1991; and National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), "Fall Staff" Survey, 1989, 1991, and 1993.

Redefining Role

The role of the staff in NDTYI will need to be reconsidered and may be redefined in significant ways. Galbraith and Shedd (1990) described an instructor's role in the teaching and learning transaction as role model, counselor, content resource person, mentor, learning guide, program developer, and institutional representative (Galbraith & Shedd, 1990, p. 9). Other roles for learning staff will be navigator, facilitator, coach, and mentor. Staff will share roles within the institution and with external partners.

In NDTYI, those who do the work of teaching and learning will do less instruction and more facilitation of knowledge construction and problem solving with students. Learning staff will connect the learner to a learning context such as a hospital, private firm, or government agency, and in other instances the connection may be through simulations and case studies. The learning staff will serve as navigator in guiding the direction of the learning enterprise and individual learning through the vast storehouse of information now available. Among the learning team will be staff with pedagogical expertise and content expertise. The learning teams will require various skills, backgrounds, and expertise. These are not revolutionary concepts. In 1980, Knox suggested that the general characteristics and interpersonal skills for a facilitator of adult learning entail three areas of core knowledge: (1) knowledge of content, (2) knowledge of adult development and learning, and (3) knowledge of instructional methods (Galbraith & Shedd, 1990, p. 9).

The institutions that prepare learning staff will be encouraged to consider the principles proposed in the *Task Force on Vocational Technical Teacher Education, Final Report* (National Association of State Directors of Vocational Technical Education Consortium and University Council for Vocational Education, 1995). These include the following:

- Preparation for work and family as one of the primary goals of education
- Learner-centered, reality-based systems that demonstrate authenticity and serve as exemplary models for lifelong learning experiences
- Contextual, integrated learning experiences guided by learning enterprise workers and instructional processes that value the full potential of each individual, and reflect and accommodate diversity in contexts and learner styles (p. 12)

Beyond the Campus

The learning staff role is more easily understood in the context of the NDTYI learning environment. The learning enterprise will be the unit for delivering and managing the pedagogy around a unifying idea such as interest areas or occupational/industry areas. Enterprises will be self-defining groupings of learning staff and students. These enterprises will organize themselves around a set of standards or criteria that will be derived in conjunction with real work environments in the community. Members of the learning staff will have the ability to build teams as needed and collaborate with other enterprises both within the institution and outside—such as businesses. The role for the faculty will be to negotiate, to link, and to maximize resources by connecting with the community of interest outside of the institution.

A review of Cohen and Brawer's (1989) basis for hiring community college faculty found that "regardless of degree, titles, and types of programs, an emphasis on breadth of preparation and on people sensitive to the goals of the community colleges and the concerns of their students has been a standard recommendation" (p. 70). These characteristics will be valued in the NDTYI.

Responding to Signature

The first step in the design-down process is the learning signature, which articulates either graphically or in writing what is special or unique about the TYI. Cross (cited in Jenrette & Napoli, 1994) wrote that Miami-Dade Community College started the Teaching/ Learning Project in "textbook-perfect pattern, with a statement of agreement about the values of the college, and then went on from there to develop one of the most far reaching and potentially powerful reforms of our times—times that are critical of the quality of teaching and learning" (p. ix).

At Miami-Dade Community College, a clear delineation of college values was selected as a starting point. They reviewed the college's publications and written documents to identify both explicit and implicit values. A survey was developed and sent to all college personnel as well as a sampling of students and community members. Miami-Dade identified seven institutional values related to teaching and learning: (1) learning, (2) change to meet educational needs and to improve learning, (3) access while maintaining quality, (4) diversity in order to broaden understanding and learning, (5) individuals, (6) systematic approach to decisionmaking, and (7) partnership with the community. In the Miami-Dade experience, institutional values were the starting place for learning staff and learning staff development (Jenrette & Napoli, 1994, p. A-11).

Assuring Outcomes

Learning outcomes in NDTYI are integrative of subject matter areas and contextually linked or applied (because they are derived from real-world problems and opportunities). The learning staff must be able to integrate vocational and academic areas and work in interdisciplinary teams. The staff will be expected to demonstrate the outcomes expected of students.

The learning process operated by staff will involve a combination of instruction and construction, requiring that the learning staff be able to guide group problem solving. Galbraith and Shedd (1990) describe problem solving as critical questioning, critical incident exercises, role playing, crisis decisionmaking simulations, and discussion. NDTYI recommends including and moving beyond these pedagogical strategies to increase focus on knowledge construction (Gibbons et al., p. 6). Problem solving will move outside of the classroom to the community. It will be the equivalent of "on-the-job-training" for both the learning staff and the learner to gain needed skills and knowledge through "experience, trial and error, modeling, peer groups, collegial contact and collaborative efforts, as well as through self-directed study that utilizes human material resources" (Galbraith & Zelenak, 1989, p. 128). Integrated technology will blur the lines between learning and other life activities such as work, family, and community responsibilities, enabling the recasting of external relationships (Tapscott & Caston, 1993, p. xiii).

Attending to Process

"Just in time" learning experiences will involve the use of resources and talent to provide a "just right" response to the changes in knowledge, learning needs, and the learning situation. Learning experiences will be developed in the self-defining enterprises through intersecting sets of pedagogical and supporting skills.

In 1986, Daloz drew a picture of a learning staff that would develop learning interactions that are challenging, active, and supportive by maintaining standards and high expectations for adult learning. Students were to have challenging tasks that call for closure, while at the same time providing insight into how knowledge is applied to the learners' lives. Instructors should provide for realistic and varied practice opportunities that help adult learners persist and apply what is learned (Galbraith & Shedd, 1990, p. 11). Several authors support educational encounters that require the adult learner and the instructor to act and to think critically and reflectively (Brookfield, 1987; Galbraith & Shedd, 1990; Schon, 1983).

Stern and Tsuzuk (1996) discuss such an endeavor in their description of a career major as a coherent sequence of courses or field of study that prepares a student for a job by integrating academic and occupational learning; including school-based and work-based learning; and establishing linkages between secondary and postsecondary educational institutions.

Working with Adults

The more sophisticated the learner, the more the learning staff can work with the student's experiences instead of treating the student as an empty vessel (Johnson, 1991, p. 54). The current reality is that the average community college student is 29 years of age and most are employed (p. 54).

Learning staff will need to be trained in theory and skills of educating adults. In order to facilitate the interaction among the learner, the situation, and the content, the learning staff will need to be knowledgeable of the following:

- *The Characteristics of Adults:* motivation, physiology of learning, development tasks of adult learners, interpersonal development, aspects of aging, stress management, cultural strengths and differences, influence of personal situations, and the process of adult learning
- *The Learning Situation:* teaching strategies, learning styles, differences and similarities between men and women, ethnic groups, class orientation, group dynamics, career development, environmental considerations, organizational dynamics and culture, and the analysis of the societal and cultural context within which the learning will occur
- *The Content of the Program:* the purpose of the learning endeavor, needs assessment, evaluation of learning and program, curriculum planning, administration, marketing, and public policy (Saul, 1990, p. 51)

Knowing the Learner

TYIs already have a knowledge base in the field of adult education. The learning process that Brookfield (1985, as cited in Saul, 1990) recommends is praxis or an action reflection model. Brookfield writes, "praxis is at the heart of adult education; participants are involved in a constant process of activity, further reflection and collaborative analysis of activity, new activity, further reflection and further collaborative reflection" (p. 53). In a similar way, Johnson describes a strategy facilitating experiential learning as helping the student to "process out" the experience into learning (cited in Saul, 1990, p. 51). The basic experience must be worked over, processed, and dealt with in some manner in order for the student to learn from it. Johnson calls it moving from the experience, to the analysis of the experience, to the generation of a personal theory (p. 55).

Through facilitated learning or experiential learning, the learner will find fulfillment and be better able to manage change (Johnson, 1991). According to Johnson, these strategies will enhance the employability of the student. Employers are more impressed with students who are able to learn from their experiences—to learn on the job (p. 56). Increasingly employers want to be involved in student learning and are willing and able, with some support from educational institutions, to assume a substantial role in the education process (p. 56).

Experiential learning can be internships, cooperative education, service learning, and other outside-the-classroom educational programs. Experiential learning should include scenarios in which the student's experiences are the starting point of the learning, rather than simply the final application. A facilitative staff would manage to find the learning resources in each student's experiences (Johnson, 1991, p. 55).

Assessing Learning

Assessment in NDTYI will mean both diagnostic assessment to determine the needs of the learner, appropriate placement, and prior learning, as well as assessment for improving the learning process. Cross and Angelo's (1988) work is summarized in *Classroom Assessment Techniques* (see also Cross, 1988, 1993a, 1993b) as a means to maximize learning through frequent assessments of how well students are meeting the goals of instruction. Learning staff will need to have some level of proficiency in collecting data from students throughout the learning process for use in improving the learning process. Cross and Angelo (1988) offer 50 Classroom Assessment Techniques (CATs), some for assessing course-related knowledge and skills; others for assessing learner's attitudes, values and self-awareness; and still others for assessing the learner's reaction to instruction.

Using External Partners

Saul (1990) encouraged TYIs to offer training for adult educators in the community, external to the institution. The many learning partners necessary to fulfill the implementation of contextual learning warrant consideration by the TYIs of developing training programs for community partners. Possible training topics include adult learning and adult development; techniques for teaching adults; focus on specific learner groups; focus on specific learning situations—basic literacy, training in business and industry,

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human resource development; research methods—action research, research application in practice, and the practitioner as researcher; management of internships; train-the-trainer; practitioners in literacy, working with volunteer agencies and business; lifelong learning skills; and self- and peer assessment techniques (p. 55).

Involving Internal Partners

NDTYI incorporates all staff in the discussion of learning staff. For example, Miami-Dade Community College chose the teaching/learning environment as one of its conceptual areas of focus in improving learning (Jenrette & Napoli, 1994). They recognized the role of support services in the following comments:

> while highly skilled teachers and willing learners are required for excellent teaching and learning, high quality services are also essential to create an environment that facilitates teaching and encourages learning. Creating new environments is not necessarily the solution; it may be maintaining and modifying existing environments is more appropriate. The environments need to be supplied with equipment in good working condition, and there needs to be clerical and custodial services as well. In short, the commitment to excellence must be shared by all personnel whose efforts support the teaching and learning process, even in the most indirect way. (pp. 7-8)

Miami-Dade also recognized that the equipment and maintenance of the learning environment are of utmost importance and are often the most difficult budget category to support. Jenrette and Napoli (1994), offering Miami-Dade's experience, wrote,

> Their Teaching and Learning Subcommittee recommended processes to ensure support of operational practices of all service areas: user feedback be solicited, faculty regularly be invited to talk with service providers, annual objectives be developed which include recognition of each area's contribution to teaching and learning, and that items relating to those objectives be included in the annual performance review of all service area personnel. (p. 8)

The Miami-Dade experience discovered that it was more challenging to relate and recognize the purchasing department, budget office, and personnel office relationship to teaching and learning (than other areas) (p. 8).

Prioritizing Staff Development

The staff development strategy at Miami-Dade Community College is comprehensive. Staff development is designed to revitalize careers and bring focus on the institution helping the individual learner to be successful. The effect was to create a successful learning environment for both students and staff within a complex, diverse urban environment with all of the attendant problems of lack of skills and limited access to technology and socioeconomic constraints. None of these conditions prevented the learning staff from creating an exciting and caring learning environment.

The learning staff of Miami-Dade recommended that staff development programs meet the following criteria:

- The system should be supportive and developmental in nature. Monitoring of performance provides for reinforcement of positive efforts and an opportunity for prescriptive intervention.
- Personnel decisions should be based on information obtained systematically and from multiple sources.
- Individual faculty members should be responsible for their own advancement (NDTYI would include administrative staff, student service staff, technical staff, and support staff). (Jenrette & Napoli, 1994, p. 10)

The main steps for the staff development program at Miami-Dade involved identification and agreement in the following areas:

- Institutional values
- Definition of excellence
- Goal setting
- Personnel policies (to encourage development and reward for performance)
- Orientation
- Mentoring
- Process for feedback
- Review

- Recognition
- Reward

In order to ensure a long-range institutional commitment to staff development and institutional implementation, Miami-Dade instituted Teaching and Learning Centers with full-time staff, including a director, support staff personnel, and a substantial budget, given the institution's size and commitments. The role and program focus of the centers were determined by those affected, faculty, and others (Jenrette & Napoli, 1994).

Influencing New Hires

Incorporating learning staff specifications into the institution begins with reviewing principles and practices for hiring and acculturating new staff members. Excellence should be defined for all areas as it relates to learning. Standards exist for faculty that can be used as models for definitions of excellence for other learning staff positions. Definitions of excellence give both the hiring committees and the applicants an opportunity to know what is expected. As suggested by Jenrette and Napoli (1994), from the definitions should flow the interview protocol "to elicit information about the critical aspects" of the learning staff's role.

Orientation and training will take on greater significance in NDTYI because of greater participation in and by community members in the learning process. Miami-Dade developed a faculty orientation program beginning with a week of workshops, presentations, and meetings conducted by appropriate personnel. New hires were given a separate contract, which paid them to attend the orientation and follow-up activities continuing through the first year (Jenrette & Napoli, 1994).

Mentoring is also a part of the Miami-Dade program for new hires. It is continued through the first year of employment. Mentoring enables the learning signature to be transferred from one "generation" of staff to the next and across areas. The extension of support and connection to the institution through mentoring reinforces the learning signature: "Mentoring improves and accelerates the process by which new faculty (and others) become knowledgeable about the institution, effective in their positions, and comfortable as members of the learning community" (Jenrette & Napoli, 1994, p. 9).

Crosstraining/Crossfunctioning

Just as business crosstrains its employees, NDTYI encourages crosstrained staff so that staff can be comfortable with role exchanges. Crossfunctional teams or task forces help to integrate the parts of the organization and can guide staff development. Job rotation promotes a continuous process of learning and staff development. It broadens the learning staff's knowledge in ways that open up new approaches to meeting the institutional goals. Crosstraining and role exchanges foster broad mastery of the process and understanding of each individual's contributions to the team and the team's contribution to the enterprise.

Continuous Quality Improvement

The learning staff is responsible to conduct continuous assessment of students to determine what changes are needed to improve the learning process and organization. One example of how continuous improvement can work in higher education comes from Marchese (1991, as cited in Cross, 1993b). Marchese was one of the first to publicly link higher education with Total Quality Management (TQM). He identified 12 major themes of TQM for higher education, while Cross and Angelo (1988) contributed classroom assessment techniques. Cross (1993b) combined the two works into 12 strategies for continuous improvement: (1) focus on quality through simple daily routines; (2) focus on student learning (i.e., the customer); (3) make changes or adjustments as the need arises; (4) understand the process and know how to improve it (i.e., cognition and human learning processes); (5) extend the mindset to know the background, preparation, and prior experience of students entering the classroom; (6) share and use data collected on the student with the student—for example, asking "how effective is the learning situation or learning interaction in meeting its goals and the student's needs?"; (7) eliminate rework or remediation by identifying weaknesses when they appear; (8) emphasize teamwork through self-directed workgroups—interact about what works and what does not work; (9) empower people to review work processes and to make the necessary changes; (10) invest in training and recognition; (11) make explicit the teaching goals—what students should learn; (12) hire leaders who are vision givers, listeners, team workers, committed to quality and customer needs, but are patient for long-term ends (Marchese, 1991, p. 6, as cited in Cross, 1993b, p. 19).

Design Specifications for Learning Staff and Staff Development

The design specifications for learning staff and staff development drawn from the focus group interviews, review of research and best practices, and the discussions of the National Design Group are shown in Exhibit 10.

Exhibit 10

Design Specifications for Learning Staff

- *Aligns with design specifications for learning context, signature, outcomes, process, organization, and partnerships:* Staffing and staff development pay close attention to the design specifications for previous design elements.
- *Ensures that each learner is known and served very well:* Staffing and staff development provides for the needed "wrap-around" support—academic, social, psychological, and physical—needed by each learner in an integrated fashion.
- *Manages constructivist learning:* Staffing and staff development support learning that produces learning products valued by the learner and wider community, involve extensive project-based learning, integrate subject matter areas, and use and closely connect community-based learning with school-based learning.
- *Handles just-in-time learning design:* Staffing and staff development are flexible, innovative, and can effectively manage the design and execution of learning experiences that are very responsive to the needs of learners and the context in which learning is taking place.
- *Builds learning communities:* Staffing and staff development attend to the competencies needed to direct the development of strong learning communities such as teamwork, understanding and valuing diversity, establishing trust, balancing freedom and responsibility, and being supportive.
- *Operates as information navigator:* Staffing and staff development give priority to the competence of using information systems and guiding others to do the same.
- *Includes competence in research and service functions:* Staffing and staff development include and integrate the educational functions of learning, research, and service to enhance the learning experience and contribution to community.
- *Employs continuous quality improvement:* Staffing and staff development apply continuous quality improvement processes to the learning experience with expectations of excellence that are constantly updated, performance that is continually assessed, and rewards and recognition that are closely linked to meeting expectations.
- *Continues to learn:* Staffing and staff development recognize the value of lifelong learning for all staff, view lifelong learning as a shared responsibility of individual and institution, provide renewal opportunities in multiple formats, and commit resources (e.g., time, substitutes, and space) for staff development.

New Designs for Learning Staff and Staff Development

Two illustrations of new designs for learning staff and staff development were suggested by the National Design Group. Both focus on staff development.

Center for Teaching and Learning

The Center for Teaching and Learning at Miami-Dade Community College has a long history of operation and impact on learning experiences available on its campus. The Center was established with much involvement of faculty and staff. It has its own space on the campus and provides a wide array of staff development opportunities for all categories of staff at the college—support staff, student services, faculty, and administrators. Training can be informal or through formal, credit-earning avenues done in consort with four-year colleges and universities. Competency profiles and standards have been developed for each classification of campus staff. Performance reviews and rewards are linked closely to competency development and demonstration. The Center has staff and technical assistance to support the staff development functions underway.

Spaces Designed for Staff Development

Maricopa Community College in Phoenix, Arizona, has set aside space for staff development that is exemplary in modeling the "classroom of tomorrow." The staff development space provides opportunity all in one area for display, collaboration, concentration, information access, product production, and relaxation.

Summary

NDTYI proposes that the role of each member of the learning staff be recognized and developed for its part in the learning experience. The learning staff is viewed as needing to share roles to provide institutional flexibility. Movements that are in keeping with this view of learning staff are high-performance work groups and professionalization of the workforce. At the same time, exemplary models of staff development, as found at Miami-Dade Community College, foster institutional change while strengthening and focusing the skills of staff to better support the goals of the institution.

CHAPTER NINE: LEARNING ENVIRONMENT*

This section focuses on the learning environment and includes attention to both the technology and facilities needed to support the design specifications recommended in previous elements of the design process. The learning environment can have a very significant effect on the kind of activities that are encouraged and those that are discouraged. Key questions addressed in this chapter concern the desired nature of the relationship between learning experiences and learning environment, design specifications for the environment, and exemplary new designs for the learning environment of TYIs.

Purpose of the Learning Environment

Buckminster Fuller was quoted as saying, "Reform the environment, stop trying to reform people. They will reform themselves if the environment is right." Because the learning environment can be so influential, it is included as a major step in the design process. Making matters more complicated than implied by Fuller, there is the admonition that one can learn in a closet, or a classroom, or a cathedral, which suggests that the relationship between learning and environment may not be as straightforward as form following function. The connection of learning experiences and learning environments may be better understood as patterns in a cultural context, rather than linear relationships of learning activities to the most appropriate learning settings. The development of design specifications for the learning environment responds to these dilemmas.

On another dimension, study and investment in the learning environment are beginning to shift from "bricks and mortar" to technology. A significant impact of information technology is increasing expectations for learning performance and for access to learning anytime, anyplace, and any content. The design specifications for learning environment speak as much to learning technology as they do to facilities.

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* The sections of this chapter focusing on "Key Concepts Regarding the Learning Environment," "New Designs for the Learning Environment," and "Related References" were written by Bruce Jilk. The other sections and overall editing were done by George Copa.

Process of Developing New Designs for the Learning Environment

While there were no focus group interviews held to address the learning environment because it came late in the design process, the National Design Group did discuss the design specifications for the learning environment at three of its meetings. In contrast to the other elements of the design process, the efforts in developing a description of the desired features of the learning environment turned to exemplary new designs as a way to communicate what was felt to be needed. This shift in effort will be seen in this section with more of it devoted to a description of an exemplary new design for the environment of TYIs than was the case in other sections. The project staff thought that the National Design Group was able to be more specific in its critique and suggestions in relationship to actual design plans and pictures of the environment than in relationship to the narrative design specification statements. We have also found that the presentation of the learning environment is a re-telling of the whole story of NDTYI in a way that integrates and makes more concrete the meaning of the design specifications for all other elements of the design process.

National Design Group Discussions

The National Design Group had an opportunity to review and discuss the design specifications for the learning environment at several of its meetings. The key points emerging from these meetings were as follows:

- The learning environment should not be limited to consideration of school buildings. Learning occurs in many places and through a wide variety of media.
- There should be opportunities to learn through variable time, location, and independently; but for many learners, having a central place, a campus, is still important. The campus is not going to and should not disappear. Some learners need to connect to a campus and its social relationships to sustain learning. *Remember in the design process that different people have different needs.* The learning environment should be able to respond differently for different people.
- With dispersed learning settings, special effort should be made to develop identity with the institution that can substitute for the pride and status that often comes from a centralized learning setting.

- Care should be taken to ensure educational equity as information technology becomes central to the learning process and it is not equally accessible to all learners.
- There should be much more flexibility in the facilities (e.g., few permanent walls) to avoid major investments in remodeling in the future as needs change.
- The learning environment should be able to accommodate variable staffing (e.g., a shifting mix of part- and full-time faculty, faculty and paraprofessionals) depending on what is needed.
- The learning environment should facilitate the TYI becoming one with the community in social terms. Community should refer to something to practice and do rather than to be—as a verb rather than a noun as place or geographic region. The design specifications for learning environment should address the delicate balance of attention to the local community (located close to the TYI) and the wider community (state, national, international).
- The learning environment should provide informal meeting areas to encourage opportunities for socialization, connecting, and public forums.
- The learning environment should accommodate and encourage an expanded environment for the institution to provide greater access in relationship to time, cost, transportation, child care, and self-confidence.
- The learning environment should be pedagogical—and cost-effective; breaking the student body into small clusters can become very inefficient in the context of learners who come on a wide variety of time schedules and lengths of time and with many different program specializations of interest.
- The learning environment should provide for small groups of students working together when that is feasible in view of the learning process and student attendance patterns.
- Design of the learning environment should be kept in perspective, relative to other ways in which the institution can be responsive to learner needs (e.g., changing the learning process and organization). Different learning environment design specifications may be needed for different program areas, rather than one pattern for the whole institution.

- It may not be feasible to push all of the learning off the campus and into the community; the campus and buildings do not necessarily have to be considered a barrier between the institution and the community. There is need for both the campus and learning in the community.

- The learning environment of the institution should assist in weaning learners from considering the campus as the only or best place to learn. The learning environment should ease learners out into the larger learning environment.

- The learning environment design specifications should address existing facilities as well as new facilities.

- The learning environment should began to shift attention from the environment as a sense of place to that of a sense of presence—the goal being to have learning present as opportunity at all times (and places). The building of identity with the learning institution would then shift from identity with a place (campus) to the responsiveness of learning delivery (its being present when and where needed and with just the right focus in terms of what needs to be learned).

- The learning environment should give as much attention to supporting informal learning as to formal learning. The environmental challenge is to support the convening of conversations among learners and sustaining them with care.

- The learning environment should provide opportunities to build a multicultural democracy and therefore should provide settings that promote the breakdown of intercultural barriers and, at the same time, opportunities for sharing.

Connecting the Learning Environment to Previous Elements in Design Process

As with the discussion under this section in prior chapters, attention in developing the design specifications for the element in focus (in this case, learning environment) must be aligned with all previous elements. But for the sake of brevity, special care is taken to draw out the implications of the design specifications for only the previous design element (learning staff and staff development) for learning environment. Some of these implications, organized by the design specifications for learning staff and staff development, are as follows:

- *Aligns with Design Specifications for Learning Context, Signature, Outcomes, Process, Organization, and Partnerships:* The learning environment should pay close attention to the design specifications for previous design elements.

- *Ensures that Each Learner Is Known and Served Well:* The learning environment will need to support strong and positive identification with the institution for each learner in terms of its meeting the needs of the learner on the learner's terms. The learning environment should provide the informal opportunities and settings for the institution to get to know each student well. The environment should encourage the integration of academic and student services around the needs of students.

- *Manages Constructivist Learning:* The learning environment will need to gracefully extend and integrate into the wider community as a source of useful learning products and support for undertaking and successfully completing projects to produce the products. The environment will need to strongly encourage integration of subject matter areas and institution- and community-based learning resources.

- *Handles Just-in-Time Learning Design:* The learning environment will need to be flexible or adaptable to support the creation and direction of just-in-time learning design based on learners' needs and context for learning. The environment will need to provide just-at-hand access to the needed space configuration, technology, and learning resources to make just-in-time learning design easy and satisfying for staff and learners. Meeting the challenge of cost-effectiveness will mean that learning spaces should adapt to different needs several times each day.

- *Builds Learning Communities:* The learning environment will need to create a sense of smallness, support frequent interactions, and foster working together on common goals as are essential to building and sustaining a feeling of community.

- *Operates as Information Navigator:* The learning environment will need to provide ready access to information technology and the training to use it to support staff and learners, effectively navigating the many networks of information related to learning. Skills at learning technology involve not only the ability to use the latest technology, but, increasingly, the ability to adapt to the next generation of technology.

- *Includes Competence in Research and Service Functions:* The learning environment will need to support research and service by students and staff as much as the typical teaching and learning function. The environment should include places and technology to deliver services effectively and conduct research that is supportive of learning outcomes and community needs.
- *Employs Continuous Quality Improvement:* The learning environment will need to be sufficiently flexible to respond to the demands of continuously working to improve the effectiveness of learning experiences. Information technology should be available to assist in making continuous updates of standards, assessing performance, and providing feedback and recognition—all as feasible and productive expectations for the staff and learners.
- *Continues To Learn:* The learning environment will need to provide the settings and technology to support and recognize the importance of continuous learning by all of the staff of the institution—teaching staff, student services, support staff, administrators, mentors, and other partners.

Key Concepts Regarding the Learning Environment[7]

As we begin to think about the right environments to support the learning experiences expected in NDTYI, several principles begin to surface:

1. There will be multiple settings and environments appropriate to the multiple communities and contexts that are being served. Therefore, we need to accept the idea that there is not a single, conceptual solution for all situations. The question then becomes, what design concepts can be meaningfully developed?
2. The learning settings are not limited to school buildings. Therefore, what alternatives are there to the traditional campus and when should these alternatives be implemented?

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[7] The items listed later in this section as concepts underlying the central idea of a "Settings Web" are based, in part, on the writings of Christopher Alexander and his colleagues.

3. Learning environments are closely connected to the community's economic and social development. Therefore, lifelong learning and a community's health go together. How does this affect the design of learning environments?

A response to these principles is to plan and design learning environments by a "Settings Web" approach. That is, to identify those aspects of the learning settings that support the various learning experiences and reveal their connections. It is also necessary to acknowledge in such a design challenge the dynamics of other community and social issues.

To create learning environments solely from within the perspective of the learning institution would fall short of creating quality environments. A broader strategy is required; therefore, this study is expanded to create settings which are educationally sustainable, environmentally sustainable, and economically sustainable. What follows is a series of concepts or "code" that should be considered in designing the learning environment for the TYI.

Network of Learning

In a society that emphasizes teaching, the students (including adults) become passive and unable to think or act for themselves. Creative, active individuals can only experience personal growth in a society that emphasizes learning instead of teaching. Therefore, instead of the lock-step of compulsory schooling in a fixed place, the learning staff should work in piecemeal ways to decentralize the process of learning and enrich it through contact with many places and people all over the community: workshops, at home, walking through the community, professionals willing to take on the young as helpers, students teaching each other, museums, traveling, scholarly seminars, industrial workshops, and so on. We should conceive of all these situations as forming the backbone of the learning process. Survey all these situations, describe them, and publish them as the community's learning opportunities, then let students weave together for themselves the situations that comprise their "school," paying as they go. Build new educational facilities only in a way that extends and enriches this network.

Open System

When an institution is built up as a campus, separated by a hard boundary from the community, it tends to isolate its students from the people in the community and, in a subtle way, takes on the character of a glorified high school. Therefore, we should encourage the dissolution of the boundary between institution and community. Encourage parts of the community to grow up within the institution, and parts of the institution to grow up within the community.

Storefront Learning Centers—Workgroups

People develop a great need to learn by doing, to make their mark on the community outside the home. If the setting is right, these needs lead people directly to basic skills and habits of learning. Therefore, in addition to building central learning sites, we should set up tiny, independent sites, one at a time. Keep the site small and locate it in the public part of the community, with a storefront and small groups of students.

Self-Governing Clusters

No one enjoys a task if he or she is a cog in a machine. Therefore, we should encourage the formation of self-governing groups of 5 to 20 learners. Make each group autonomous with respect to organization, learning style, relation to other groups, assessment, and schedule. Where the learning task is complicated and requires larger organizations, several of these units can federate and cooperate to proceed.

Navigators and Learners

The fundamental learning situation is one in which a person learns by getting help from someone who really knows what they are doing. Therefore, arrange the events in every grouping of learners in a way that each is an opportunity for learning. To this end, organize around a model of navigators and learners and support this form of social organization with a division into workgroups—one or two navigators and several learners—where they can meet together.

Flexible Learning Space

Create a kind of space that is specifically tuned to the needs of learning, and yet capable of an infinite number of various arrangements and combinations within it.

Therefore, we should lay out the space as areas of open space, with freestanding columns around its edges. The columns define half-private and common spaces opening into one another. Set down enough columns so that people can fill them in over the years, in many different ways, but always in a semi-permanent fashion. If you happen to know the learning group before you build the space, then make it more like a house, more closely tailored to the group's needs. In either case, create a variety of spaces throughout the area—comparable in variety to the different sizes and kinds of space in a large old house.

Small Learning Groups

When more than half a dozen people learn in the same place, it is essential that they not be forced to work in one huge undifferentiated space, but that, instead, they can divide their workspace up, and so form smaller groups. Therefore, we should break institutions into small, spatially identifiable groups, with less than half a dozen people in each. Two to four small groups could be brought together into clusters. Arrange the small groups so that each person can be seen at least partially by the other members of the group; and arrange clusters so that they share a common entrance, food, office equipment, drinking fountains, and bathrooms.

Small Meeting Rooms

The larger meetings are, the less people get out of them. But institutions often put their money and attention into large meeting rooms and lecture halls. Therefore, we should make at least 70% of all meeting rooms really small—for 12 people or less. Locate them in the most public parts of the building, evenly scattered throughout the institution's learning environment.

Workspace Enclosure

People cannot study or work effectively if their workspace is too enclosed or too exposed. A good workspace strikes the balance; therefore, we should give each workspace an area of at least 60 square feet. Build walls and windows around each workspace to such an extent that its total area (counting windows at one-half) is 50% to 75% of the full enclosure that would be there if all four walls around the 60 square feet were solid. Let the front of the workspace be open for at least 8 feet in front, always opening into a larger space. Place the desk so that the person working at it has a view out, either to the front or to the side. If there are other people working nearby, arrange the enclosure so that the person has a sense of connection to two or three others; but never put more than eight workspaces within view or hearing.

Minimum Parking

When the area devoted to parking is too great, it destroys the land. Therefore, we should divide the campus-based learning environment into sectors, and keep the area of parking lots and garages in every sector to less than 9% of the land.

Looped Local Roads

Through-traffic destroys the tranquillity and the safety of pedestrian areas. This is especially true in campus districts, where the creation of quiet precincts is crucial to the work. Therefore, to bring the traffic and the pedestrian world into the right balance, we should make the local roads that serve the area form a system of loops or cul-de-sacs, so that through-traffic is impossible.

Campus Streets

Large agglomerations of students and staff and heavily centralized academic facilities kill variety, academic freedom, and student opportunities for learning. Therefore, we should concentrate the major functions of the campus area of the learning environment—the offices, labs, lecture halls, sports, and facilities—along campus streets. Streets should be public and essentially pedestrian, 20 to 30 feet wide, with all the activity of the TYI opening off them; always locate new buildings to amplify and extend the TYI streets.

Activity Nodes

When buildings are spread evenly across a campus area, they do not generate small centers of public life around them. They do nothing to help the various "neighborhoods" in the campus area to coalesce. Therefore, when locating buildings, place them in conjunction with other buildings to form small nodes of public life. Create a series of these nodes throughout the campus area in contrast to the quiet, private outdoor spaces between them, and knit these nodes together with a network of pedestrian paths.

Accessible Parks

When people work extremely close to large, open green areas, they visit them and use them often; but even a fairly short distance will discourage them. Therefore, we should provide a green outdoor park, at least 60,000 square feet in area, at least 150 feet across in the narrowest direction, within 600 feet of every building in the system.

Enterprises of 400

When a grouping of students and staff is too large, students and staff become alienated; it becomes hard to run successful programs there, and hard to maintain the proper educational milieu. Therefore, we should limit the size of student groupings (termed an enterprise). Our current best estimate for the tolerable maximum is 400 students plus staff. When enterprises grow beyond this size, they must be split to form new enterprises (even if they share the same thematic focus).

Enterprise Limits

If an institution is too small, it suffers from lack of variety; if it is too large, it no longer works as a human organization; and if it grows too fast, it breaks down because it does not have the chance to absorb or adjust to change. Therefore, we should limit the growth of any enterprise to a rate of 2% per year, and limit the absolute size of any single enterprise to 600 students.

Distribution of Learning Settings

When students work or live too far from the campus area, they cannot be part of TYI life. Therefore, we should decentralize learning settings to be near places of work and living, so that learners are integrated with work activities in residential areas, thus supporting an enterprise center.

Enterprise Shape and Diameter

When an enterprise is too spread out, people cannot make use of all it offers. Therefore, we should plan to distribute all classes evenly within a circular zone that is not more than 2,000 feet in diameter.

Local Transport Area

The impact of the car on social life is devastating: it keeps us off the streets and far away from each other. The first step in bringing the car under control is to stop using it for local trips. Therefore, we should embed the enterprise in a local transport area, one to two miles in diameter. Except for very special cases, encourage local trips within this area to be made on foot, bikes, scooters, carts, perhaps even on horseback. Adapt paths and roads to these modes of travel, and slow down cars with circuitous streets. At the edge of the local transport area, build high-speed ring roads.

Living Learning Circle

Students who want to live close to the campus area also want their housing integrated; yet most housing provided today is zoned separately. Therefore, we should provide sites that integrate housing of the student population within the smaller clusters of student workgroups and enterprises. Do not zone off the enterprises.

Fabric of Enterprises

Overemphasis on the individuality of enterprises helps to fragment knowledge by keeping it in watertight compartments. Yet each enterprise does require its own identity. Therefore, we should give each enterprise a clearly identified home base, but spread the parts of the enterprise within a radius of 500 feet, so that they interlock with the parts of other enterprises. No one of these parts should contain less than five workgroups.

Enterprise Space

Spaces do not work properly if they are overcrowded, or if they are under-used. Empty, desolate spaces are as bad to work in as overcrowded ones. Therefore, we should give each enterprise a balance of area of net usable space, appropriate to the number of faculty, staff, and students. Laboratories and special areas must be figured separately.

Local Administration

System administrative services are often overcentralized: all the branches are located together in one imposing complex, when, in fact, various parts of administration could operate more effectively if they were located according to the connections each requires in the community. Therefore, we should locate different administrative services independently, each one as near as possible to the center of gravity of its particular community. Never create one vast administrative territory for all the services.

Student Community

If dormitories are too small and too communal, they become constraining. If they are too big or too private, then the idea of group living is lost. Therefore, we should encourage the formation of autonomously managed cooperative housing integrated into the clusters of base units and the community.

Small Student Unions

When a single building on the campus area is designated as student territory, it raises the feeling that the rest of campus is not student territory. Therefore, we should create many small social places across the enterprise, so that there are no classrooms or offices farther than two minutes from the nearest one within the enterprise. Give each small center at least a coffee bar and lounge/reading room.

Building Complex

When human organizations are housed in enormous buildings, the human scale vanishes, and people stop identifying with the staff who work there as personalities and think only of the entire institution as an impersonal monolith, staffed with "personnel." Therefore, to maintain human scale in public buildings, we should make them small, not more than three to five stories high; not more than 20,000 square feet in total indoor area and the total floor area. If more than one small building is being constructed to house related functions, the buildings should be conceived as a collection, connected by arcades, paths, or bridges.

Circulation Realms

In many modern public buildings, and in many parts of cities, the problem of disorientation is acute. People have no idea where they are, and they experience considerable mental stress as a result. Therefore, we should arrange buildings so that it is possible to identify a nested system of realms in every building complex, so clearly marked that every realm has an identity that can be named. Give each realm at every level a clearly marked entrance to one another so that it is possible to see and walk from one to the next in more than one way.

Natural Light

The excessive use of artificial light in modern buildings is inhuman; buildings that displace natural light as the major source of illumination are not fit places to spend the day. Therefore, no occupied space should be without natural light. It can be provided through the use of windows, clear stories, skylights, and courts.

Physical Development

You cannot get a good education in a place which runs like a factory, with a hectic work pace and never the chance for a relaxing physical diversion. Therefore, arrange wellness facilities in the enterprise, so that every point is within 400 to 500 feet of a place which is designed for wellness and leisure—a swimming pool, fitness center, sauna, or tennis courts.

Small Group Room Distribution

Have you ever tried to hold an intimate seminar for 10 students in a huge classroom that has 70 or 80 seats? Then you will agree that we should construct ample small group rooms in the enterprise. And, encourage privately owned and managed shops, restaurants, cafes, and theaters to locate in the community, on busy corners, so that they are accessible to both the learners and the general public.

Arcades

Arcades—covered walkways at the edge of buildings, which are partly inside the building, partly outside—play a vital role in the way that group territory and the society at large interact. Therefore, whenever paths pass beside buildings, we should create deep arcades over the paths, and open the group territory inside the building to these arcades. Gradually knit these arcades together until they form a covered system of paths throughout the community.

Design Specifications for the Learning Environment

Based on the National Design Group discussions and the principles and concepts noted above, the design specifications recommended for the NDTYI learning environment are as shown in Exhibit 11.

Exhibit 11
Design Specifications for Learning Environment

- *Aligns with learning context, signature, outcomes, process, organization, partnerships, and staffing:* Learning environment pays close attention to the design specifications for previous design elements.
- *Includes multiple settings:* Learning environment includes consideration of all possible settings which can support the desired learning experiences—it includes, but is not limited to, school buildings.
- *Dissolves borders among learning settings:* Learning environment makes strong and visible connections among learning settings.
- *Develops a coherent network of learning settings:* Learning environment is made up of carefully constructed, yet dynamic and constantly changing, pattern of settings needed for effective learning experiences.
- *Adapts quickly to the needs of the learning experience:* Learning environment can accommodate a variety of learning experiences in the same space and time.
- *Provides a sense of learner identity:* Learning environment gives learners a sense of identity, sometimes associated with place but increasingly with the learning signature and with what is learned and how it is done.
- *Enhances social connectivity and a feeling of community among learners and staff:* Learning environment encourages and supports close and sustained interaction among learners and between learners and staff central to creating a *feeling of community*.
- *Responds to differences in learners:* Learning environment is responsive to the needs of learners who vary in age, socioeconomic status, cultural background, prior learning experiences, full-time versus part-time status, and learning style.
- *Provides for both general and specialized study:* Learning environment provides the settings conducive to development of general and specialized competence in order to reach learning outcomes.
- *Enhances informal learning:* Learning environment supports and encourages informal learning and the interaction and mutual benefits of informal and formal learning.

New Designs for the Learning Environment

Using the design specifications for learning environment as a backdrop, along with the principles and concepts from an earlier part of this section, an example of the learning environment for NDTYI is presented from an organizational perspective. This is one way that the learning environment might be constructed to reflect the design specifications for NDTYI. Other learning environments could also be constructed to reflect the design specifications.

Note in the example presented here the focus of the environment is the *enterprise*. This is a grouping of learners and staff around a central theme. Examples would be "Human Resources," "Life Services," "The Environment," "Engineering," and "Technology." An enterprise is a community of learners engaging an integrated curriculum in its thematic area. Learning time, staff, partnerships, technology, and governance would reflect this grouping.

The optimum size would be 400 learners plus appropriate staff. An enterprise could grow to a maximum of 600 students at which time it would divide, cell like, into two 300-student groups. More than one enterprise could focus on the same thematic area.

The enterprise is like a solar system. On the one hand it is made up of a center (the sun) and other bodies (the planets, moons), which would be unique to its inherent nature. On the other hand, it is part of a larger structure called the collaborative (the galaxy). Several collaboratives, along with other learning phenomena, networked together would compose the network, the largest learning entity (the universe).

The components of the enterprise would vary depending upon the requirements and nature of its theme. Typically it would be composed of several (5-10) *domains* of 50 to 100 students. Domains, in turn, would be composed of several (5-10) *workgroups* of 5 to 20 students.

Unit	Number	Metaphor
Individuals	1	Particle
Workgroups	5-20	Satellite
Domain	50-100	Planet
Enterprise	300-600	Solar System
Collaborative	up to 10,000	Galaxy
Network	Everyone	Universe

This organization of individual, workgroup, domain, enterprise, collaborative, and network is designed in response to the goal of providing a sense of identity, meaningfulness, a feeling of belonging, and an understanding of relational place for both the people and the multiple communities of which they are members.

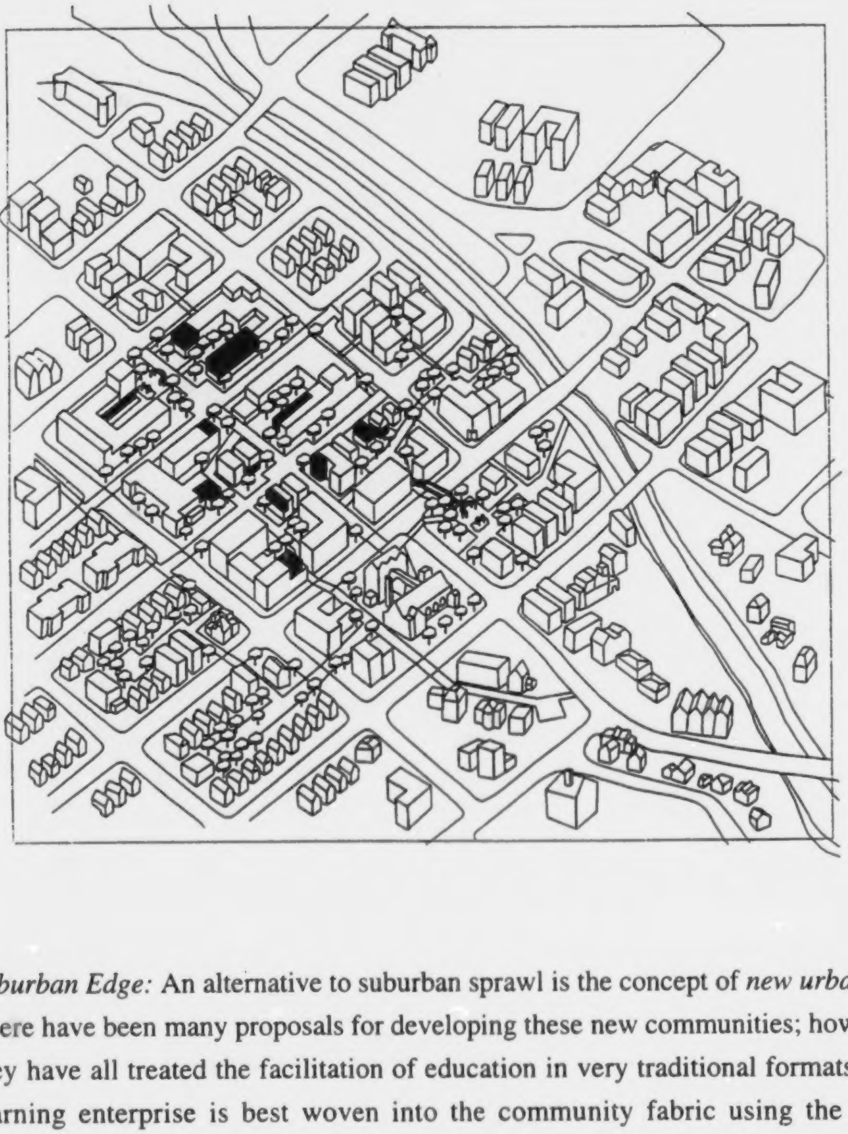
Enterprise

The enterprise is made up of several domains. The center or heart of the enterprise would be a social hearth. Within the hearth would be a lounge, enterprise mail, refreshments, supplies, small library, student information, and so forth. The other elements (moons) of the enterprise would be those places necessary to support the varied learning experiences, including laboratories and studios. These places would be a combination of spaces owned by the enterprise and spaces used for learning experiences through partnerships.

Although enterprises could form in a variety of contexts, four prototypes are proposed:

1. *City Neighborhood:* This is quite likely the most common type of enterprise (see Figure 19). Most of the infrastructure is existing. Development of a learning enterprise could be the focus of a redevelopment effort. This would most likely involve converting existing residential buildings and spaces into a learning enterprise. Some new buildings may also be constructed to complement the remodeled buildings within the neighborhood.

Figure 19
Enterprise in City Neighborhood Context



2. *Suburban Edge:* An alternative to suburban sprawl is the concept of *new urbanism.* There have been many proposals for developing these new communities; however, they have all treated the facilitation of education in very traditional formats. The learning enterprise is best woven into the community fabric using the same principles that inform the other elements of these new "towns." The learning enterprise should not be a separate entity, but should be an integral part of the community.

3. *Rural Village:* Similar to the city neighborhood, this setting has an extensive (but dated) existing infrastructure. By bringing learning into focus, revitalization of these rural towns and villages becomes feasible. As in the prototype for the city neighborhood, existing buildings are remodeled or new ones constructed to become part of the learning enterprise.

4. *Urban Core:* This setting represents the highest density of population, as well as the most developed facilities. Nearly all places for learning would occur in existing structures, and the challenge becomes one of organization and technology. This is also the best opportunity for enterprises to form collaboratives. This prototype also involves converting existing buildings into a learning enterprise, but here, commercial buildings, office buildings, and apartment buildings are used. Collaborations with existing entities in the community are envisioned where the learning enterprise would co-exist and interact with government entities, businesses, and other community organizations.

Domain

The domains that make up the enterprises are a combination of several workgroups and flexible, yet technologically advanced, production/resource facilities to support the learning process, especially those learning experiences related to projects and products. In addition to the space of the domain, it is anticipated that roughly 50% of the learning experiences organized at the domain level would take place in their real-world settings through partnerships. This is the interface between the general skills and the specialized skills that make up the designed learning experience.

To facilitate this interface, the domain is physically woven into the community fabric. The setting is multiple use and needs to accommodate a variety of changing activities. Therefore, an infrastructure that is designed for flexibility is necessary. This "armature" of space and utilities (e.g., water, sewer, power, telecommunications, HVAC) needs to be categorized into levels of intensity in order to balance cost with need and circumstance. Four levels of domains are proposed to this end. These levels are on a continuum in the intensity of use for educational purposes. Starting with the most intense use, the first modular domain would serve the greatest variety of uses. The second and third levels represent medium intensities and the fourth is primarily residential. Any enterprise would draw on domains at each level. The primary exception would be the urban core enterprise where domains would mostly occur in the existing multistory buildings. The domains described below would be new facilities at either the suburban edge or as infill for city neighborhoods or towns. An option would be to use or renovate existing buildings (particularly in city neighborhoods or rural towns) along the concepts of the domains as described below:

- *First Modular Domain:* The most intense level of use and flexibility, this domain would serve a broad range of activities including (somewhat in order of priority) institutional, business, retail, governance, and residential (see Figures 20 and 21). These domains are located at the center of the learning communities where the greatest variety of activities take place. This offers the richest range of complementary and shared use of resources. Examples include the local cinema being used as a lecture space, the library becoming an access center, and the various work sites serving as places for practical learning experiences. In this modular domain, educational use is high and takes place in a variety of contexts.

Figure 20
First Modular Domain: High Educational Intensity, Attached

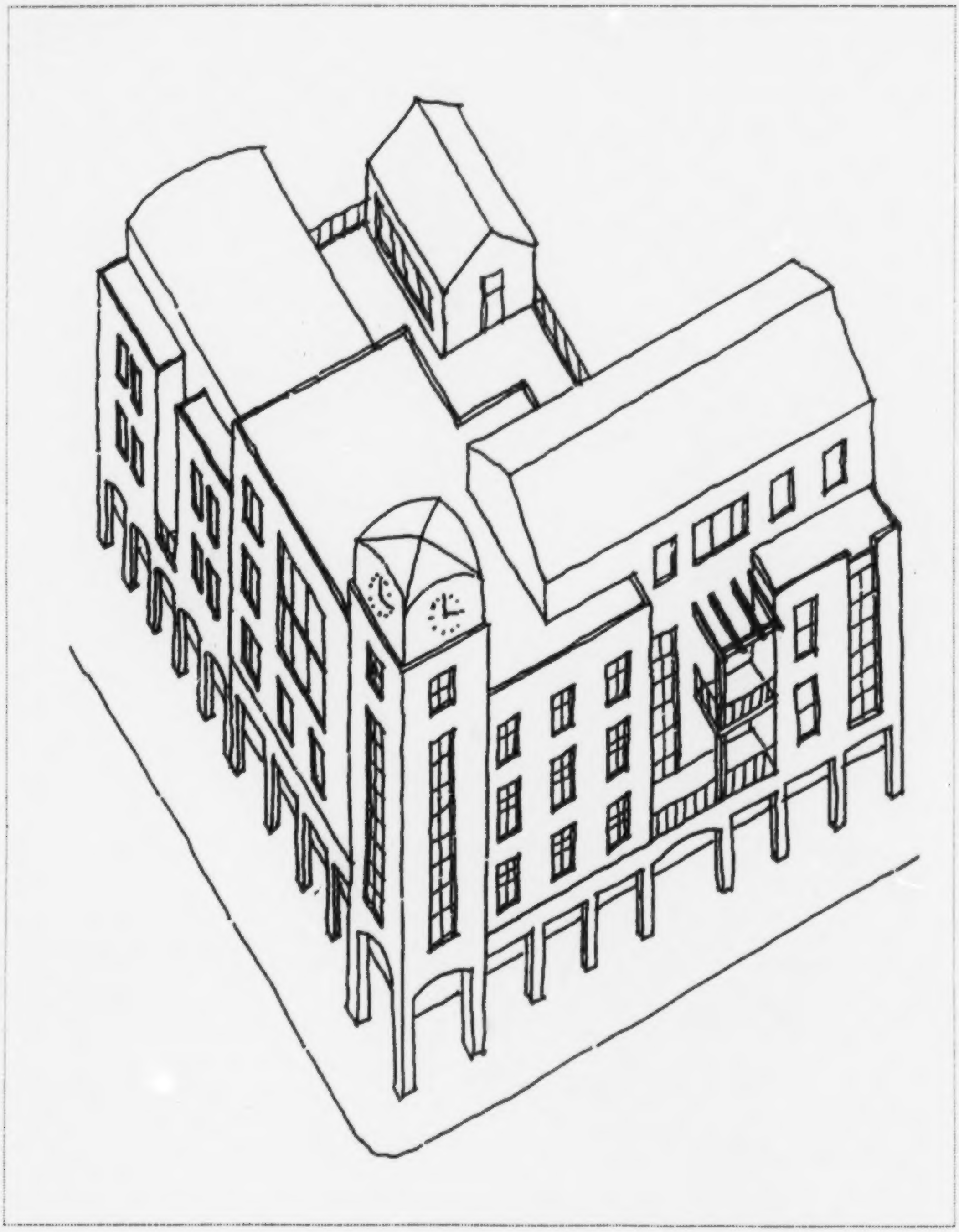
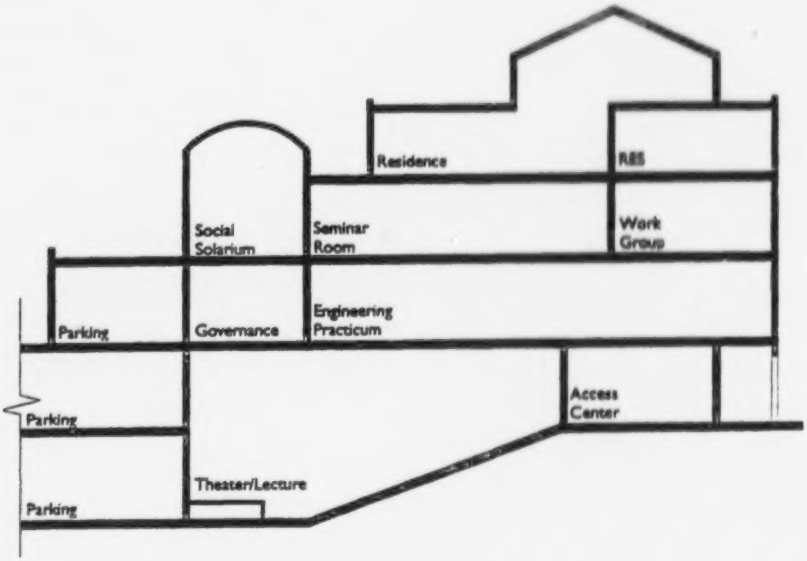


Figure 21
First Modular Domain: Cross-Section


Residence
RES
Social
Solarium
Seminar
Room
Work
Group
Parking
Governance
Engineering
Practicum
Access
Center
Parking
Theater/Lecture
Parking

- *Second Modular Domain and the Third Modular Domain:* These can be discussed together. The distinction between them is that the second modular domain (like the first modular domain) is a part of a continuous building fabric (see Figures 22 and 23). The third modular domain shares the same intensity of use as the second but differs in that it is a detached, stand-alone building. The reason for the distinction is to accommodate different cultural expectations. For example, builders in the Netherlands would find it difficult to justify freestanding buildings in a village center, whereas those in Australia look for strategies to allow buildings to be open on all sides even in high densities. Another example is New York City versus Phoenix. Being of medium intensity, the range of uses and its priority changes. Included are business, residential, institutional, and small retail. This domain is similar to the common building type of the European village or new world town, with the commercial or business activity on the ground floor and residential facilities above. The second and third modular domains have moderate levels of educational use. The educational enterprise co-exists in the same building with other organizations.

Figure 22
Second Modular Domain: Medium Educational Intensity, Attached

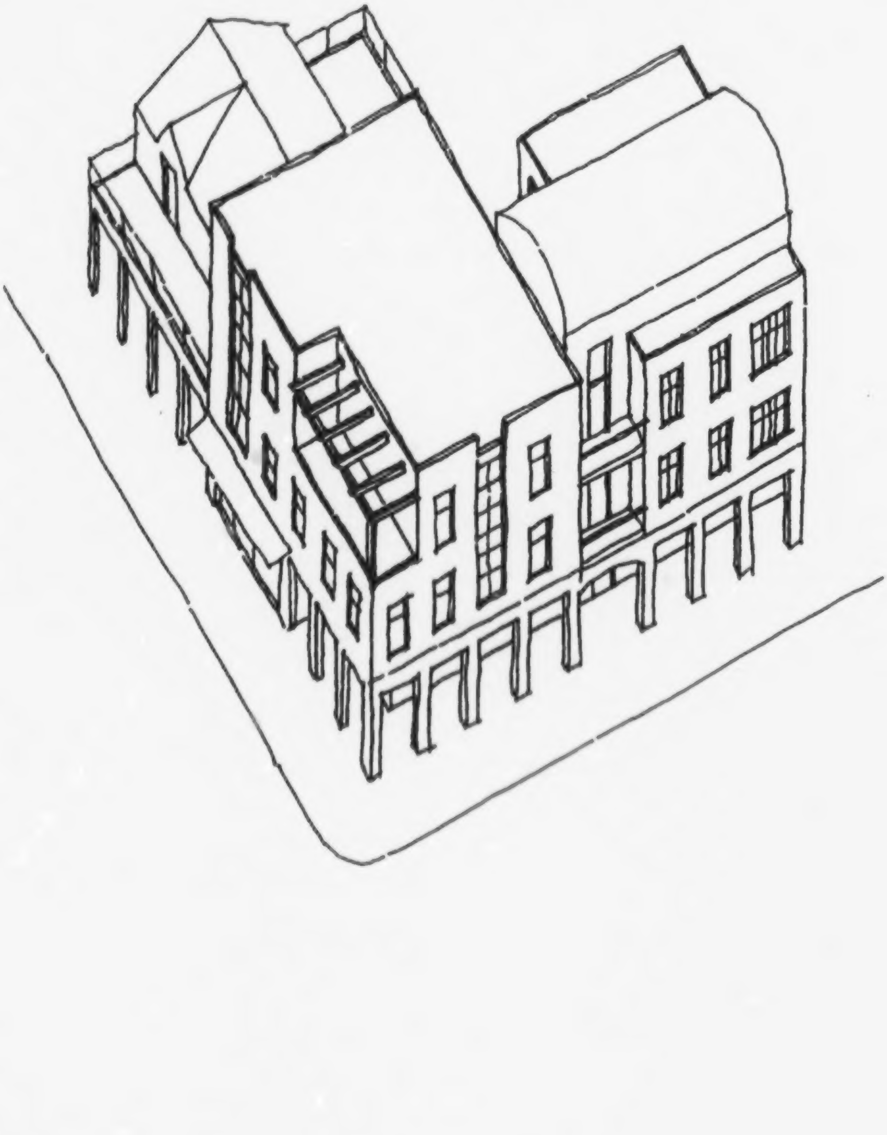
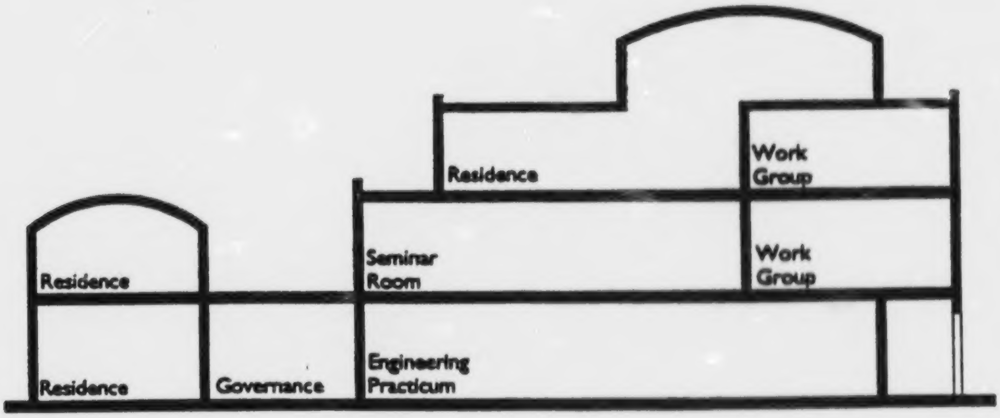


Figure 23
Second Modular Domain: Cross-Section



- *Fourth Modular Domain:* This, the least intense domain, is dominated by its residential use. Being freestanding (or courtyard), these domains would also accommodate small business and adjunct uses (home office, tutor). However, the objective is to include these areas in a high density pattern by establishing standards requiring multistories and small sites. Educational use is low in the fourth modular domain. Although some education is conducted in these domains, it is not the main activity.

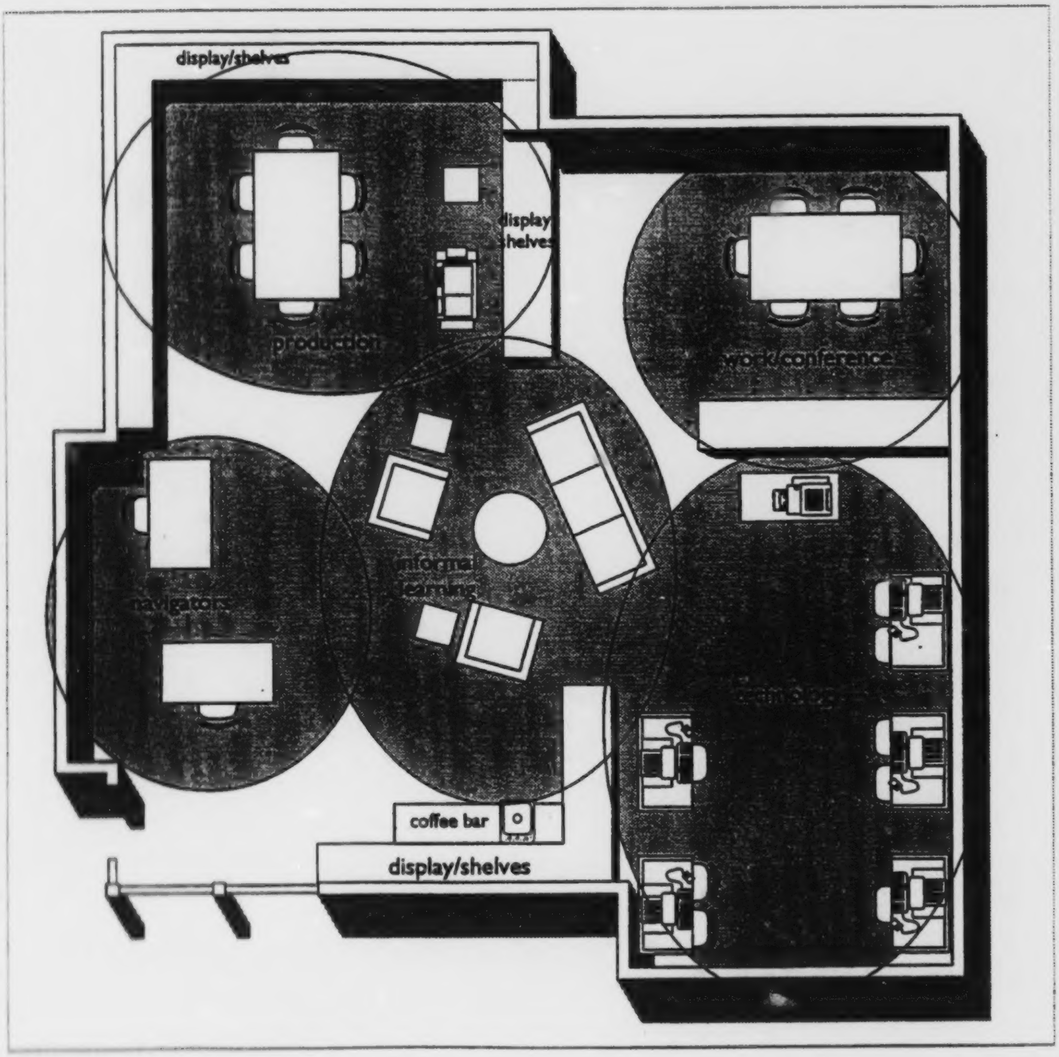
Workgroup

The workgroup is the home base for the learning process (see Figure 24). This is the classroom of the future. The zones within this space include a place for research, assistance, production, and formal and informal meetings. It is the basic building block for the postsecondary learning experience. Workgroups can be located in settings such as residential environments, in office buildings, and in shopping centers. Workgroups are located in these settings when the thematic nature of the enterprise requires learning experiences that benefit from proximity to these resources.

An example would be the following image. Seven elements of a settings web of learning are intermixed into one environment:

1. Collaboration at the unassigned, work/conference area
2. Concentration at the technologically rich private space
3. Mobility with portable, personal computers/files
4. Relaxation/focus at the lounge area
5. Production support in the production area
6. Guidance from the "navigators"
7. Informal communication display at a refreshment center and elsewhere

Figure 24
Workshop: "Classroom of the Future"


display/shelves
display/shelves
production
work/conference
navigators
informal learning
coffee bar
display/shelves

These learning events and settings are brought together, not just because they complement each other but because they also address the need for flexibility/adaptability by allowing change in use from hour to hour, day to day, and week to week.

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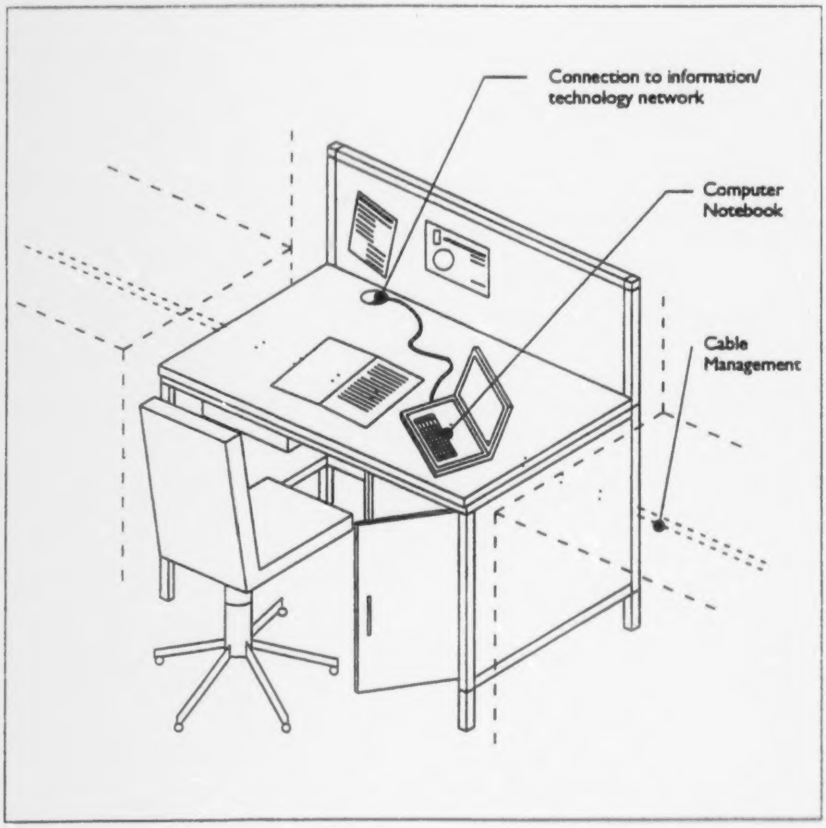
Individual Workstation

A basic building block is the individual workstation (see Figure 25). Each learner has a place to study and do small projects, keep books and papers, put personal belongings, and connect into the technology network. Each learner has a notebook computer. This is certainly learner focused; however, it is weak in addressing the educational concept of teaming. Combining the individual workstation with the desire for teaming leads to the idea of a small, flexible group space that would accommodate several personal workstations. This building block needs the support of spaces for instruction, production, resources, and demonstration. This arrangement is referred to as the *workgroup* and is similar to many real-world work settings.

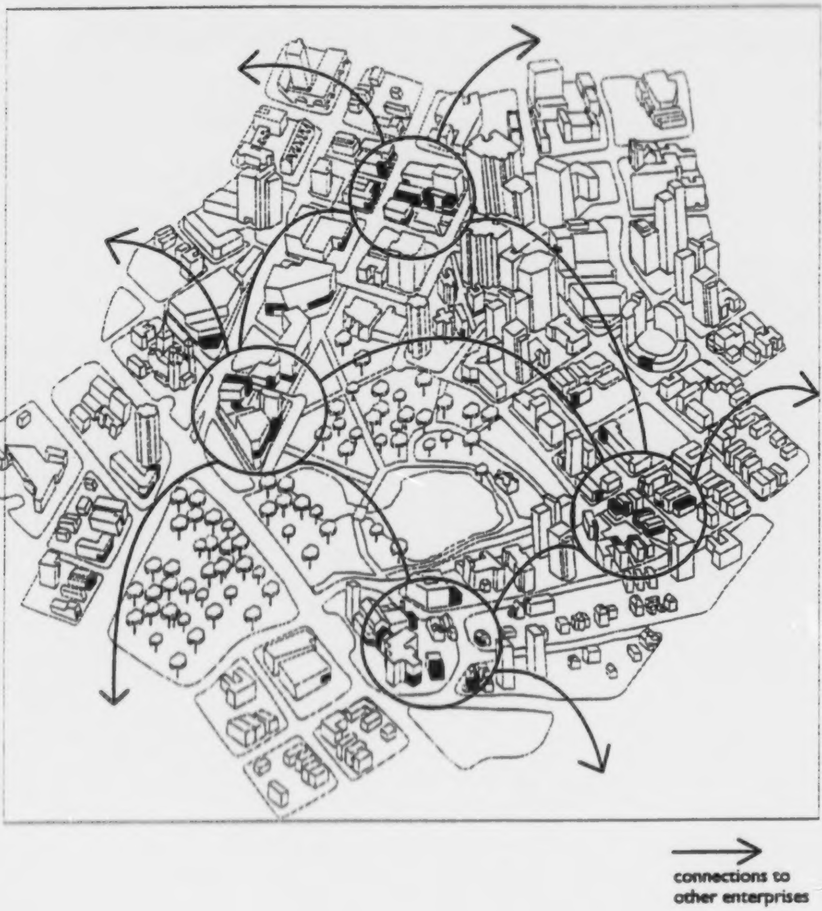
Figure 25
Individual Workstation



Collaborative

Up to this point the focus has been on the more intimate, closely-knit enterprise and the components of its structure. The collaborative is a collection of enterprises (see Figure 26). The objectives of making connections between enterprises are obvious: the sharing and mutual support, the economics of scale, and the opportunities for institutional learning. The pattern of this relationship has been around for a long time and is exemplified by Oxford University, a collaborative of 30+ colleges of several hundred students each. The implications for environment are approached from two perspectives. The first is the environment of the real world. Here there should be little or no impact. Unlike Oxford, there is no structured hierarchy and therefore no need for a headquarters, either functionally or symbolically. This leads to the second environment, that of the computer network. Here there are some implications. The objective would be to serve a nested hierarchy, or one of relationships. From a facility perspective, this type of reality is dependent upon communications technology and the collaborative therefore comes into being through computer linkages.

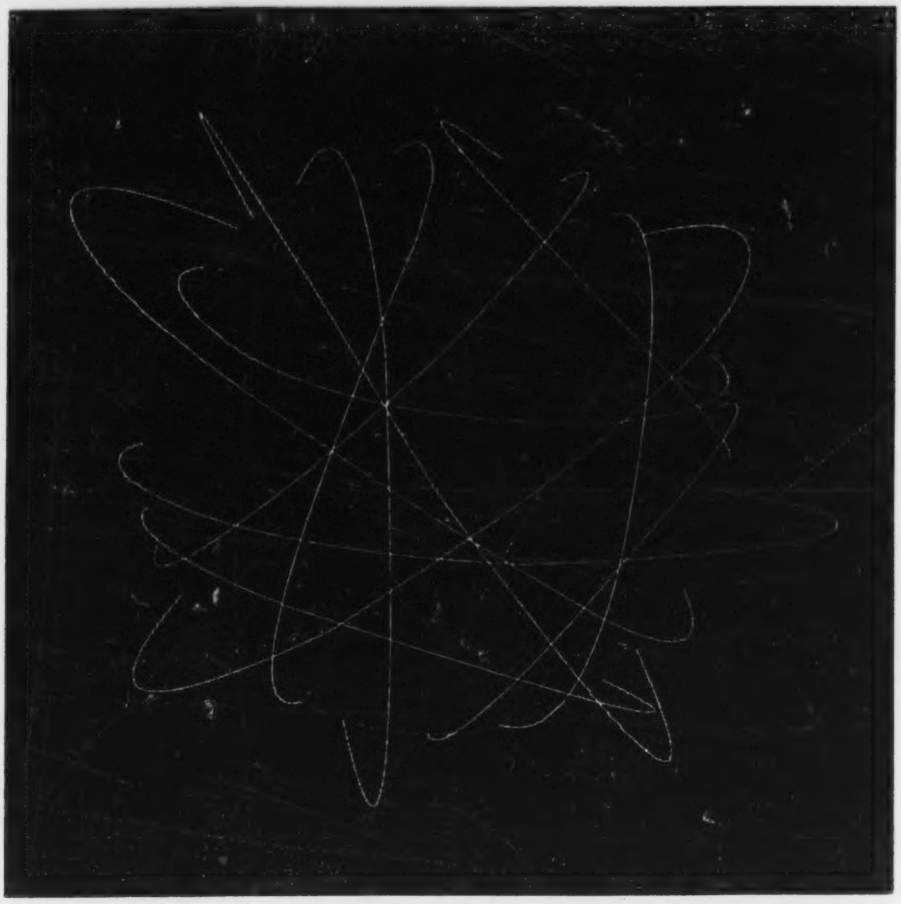
Figure 26
Collaborative: Connection of Enterprises



Network

The environment of the network is similar to that of the collaborative (see Figure 27). However, whereas the collaborative has some degree of a local dimension, the network is global in nature and the focus is on information through the technologies of computers. Extensive material has been produced on this subject and will not be repeated here other than to make note of this dimension to the learning environment.

Figure 27
Network: Global Connection to All



The "Settings Web" presented earlier in terms of individual workstation, workgroup, domain, enterprise, collaborative, and network could be assembled in many different ways. One example would be to think of a TYI as a medical clinic. Students come with their individual needs and go through the following process:

- Phase A: A diagnostic is done to determine what steps must be taken to serve their learning needs.

- Phase B: The staff, resources, and schedules are organized and students proceed on individualized plans.
- Phase C: Additional investigations are made during the above process so adjustments to the plan can occur.
- Phase D: Follow-up activities also occur, which reflect both changes in the individual and in the context in which that individual wishes to operate.

The place at which this example occurs could, in fact, be many places including at the "clinic," at places with state-of-the-art equipment, at work sites, at home, at virtual settings, and at places for collaboration. Ultimately, the learning experience is not fixed in time or space, but, rather, it becomes a web of learning events and settings. This is what the NDTYI's learning environment should reflect.

Summary

The design specifications for the learning environment in NDTYI were developed on the bases of the design specifications for previous design elements, discussions by the National Design Group, and a series of environmental principles and concepts that were thought to merit special consideration. Based on the design specifications for learning environment, special efforts were made in this section to develop a prototype for the NDTYI learning environment as a way to communicate in more concrete ways what was expected.

CHAPTER TEN:
LEARNING FINANCE*

Learning costs and public expenditures for higher education are on a collision course. The decade of the 1980s was a time of inflationary higher education prices, and the 1990s promise a parallel dramatic reduction in the level of public support for the postsecondary educational enterprise. At the same time, many institutions of higher education are pricing themselves out of the market with tuition and fees that exceed student and family ability to pay.

The TYI is at the center of these financial dynamics. It is increasingly the preferred alternative to the four-year experience—in many instances the practical capstone to a baccalaureate. At the same time, the TYI is competing for public support with both K-12 and four-year graduate systems. When these dynamics are coupled with the exploding demand for both technical and general education, the result is a crisis of resource supply that calls for new ways of gathering and managing resources.

This section outlines an approach to financial management that links institutional resources to NDTYI and its work. This approach is based on a view of the TYI as a learning organization—one that can respond to new challenges and opportunities in a timely way.

Purpose of Learning Finance

As should be evident from the above introduction, learning finance is very critical to the implementation of NDTYI recommendations. Although the resources available to TYIs come in many forms, eventually they are converted into a bottom line for the institution—either it is financially healthy and stable, or the institution moves into crisis mode, eventually going out of business if financial matters are not turned around. Each of the previous design elements has implications for finance. And so, like the learning environment, addressing learning finance becomes another opportunity to integrate the design specifications resulting from other elements and to communicate in more concrete terms what is expected by NDTYI.

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* A first version of this paper was prepared by Neil Christenson. Using his work as a base, the section introduction and sections on "Key Concepts Regarding Learning Finance" and "Design Specifications for Learning Finance" were written by William Ammentorp. The remaining sections and overall editing was done by George Copa.

Process of Developing New Designs for Learning Finance

As with the learning environment, there were no focus group interviews conducted to assist with developing the design specifications for learning finance. The National Design Group had the benefit of staff working on reviewing the research and best practices as it discussed the direction to be taken by NDTYI as regards learning finance at two of its meetings.

National Design Group Discussions

The following were the key points made by the National Design Group regarding the learning finance of TYIs:

- Learning finance needs to address the long-term problem of a diverse student group who must do a better job of learning (learning more) with less funds available to the students and to the institutions.
- Neither the state nor the federal government is clear about what is expected from higher education, and higher education is not clear about what it wants to do either.
- Higher education will face growing competition for resources from K-12 education, cost of crime, health care costs, and welfare costs.
- Student tuition in most states has risen to the point where it is no longer politically acceptable to raise it further as a source of revenue. Student debt to finance education is growing at an alarming rate.
- Legislatures tend to believe that higher education can do more with less funding.
- The participation in higher education will likely stabilize in the near future. Increases in numbers will come from part-time students, older students, women, and students of minority races.
- An aging faculty and facilities will lead to higher costs.

- In the hierarchy of higher education, the TYIs are much more vulnerable to short-term financial crisis.
- States play a major role in TYIs because they provide the largest share of funding.
- Financing should consider decentralizing as much as possible (i.e., from the state to the local area surrounding the institution and within the institution) as a way to enhance revenues and control costs. The state's role should be to equalize revenues to avoid disparities among geographic areas.
- All stakeholders in the institution (e.g., students, support staff, administration, faculty, and partners) need to have a voice in the management and finance of institutions. They all have to "buy in" if new ideas are to be put in place.
- Using satellite learning centers located in the community can reduce costs and increase access to students.
- Higher education is a labor-intensive activity with very complex decisionmaking structures. It is sometimes isolated from its environment and slow to change.
- Support for new construction in higher education is likely to sharply decrease.

Connecting Learning Finance to Previous Elements in Design Process

Financial policies and resource management come together to make all of the previous design decisions in NDTYI a reality. The truth of this statement is easy to see in the implications it holds for steps in the design process:

- *Learning Signature:* The beliefs and values that define the signature of the TYI are put into practice through financial policies. When these are in alignment, financial resources are used to support the signature of the TYI in an effective and efficient manner.
- *Learning Outcomes:* These constitute the output measures for judging the contributions of various financial investments. The productivity of human and material resources and the integrity of the TYI's stewardship are assessed against outcomes.

- *Learning Process:* This is the mechanism whereby financial resources are converted into outcomes. Clearly, the TYI cannot achieve optimal use of resources unless finance and learning decisions are carefully articulated.

- *Learning Organization:* As the college "learns" about its students and its work, it acquires the capacity to direct resources to their most productive use. In this sense, finance is the energy that turns organizational learning into results.

- *Learning Partnerships:* While partnerships take shape through common interests and expectations, they ultimately turn on finance. If partnerships cannot stand the test of the "bottom line," they will not prove to be viable.

- *Learning Staff:* Staff is, of course, the medium whereby finance is translated into the key TYI's input to the learning process. The productivity of staff and its capacity to foster both organizational and student learning constitute the long-term investment capital of the TYI.

- *Learning Environment:* Valued inputs and outputs are continually exchanged between the TYI and its environment. Financial policies and management practices are the principal measures of these exchanges, a well-understood language whereby the TYI can learn about its environment.

Surely any new design that has any hope of widespread adoption in the postsecondary community must provide for both adequate funding and warrantible stewardship. These are the two starting points that undergird our understanding of financial policies and resource management for NDTYI.

Before going further, the implications of the previous step in the design process, learning environment, are examined specifically as they relate to learning finance. The implications of each design specification for the learning environment is translated into implications for learning finance:

- *Aligns with Learning Context, Signature, Outcomes, Process, Organization, Partnerships, Staffing, and Environment:* Learning finance must pay close attention to the design specifications for previous design elements.

- *Includes Multiple Settings:* Learning finance plans must consider the implications of learning occurring in multiple settings and its effects on shifting costs and revenues, liabilities, and needed formal agreements.

- *Dissolves Borders Among Learning Settings:* Learning finance and related bureaucracies should become so well worked out that they are invisible to students. Students and partners should not be burdened with concern about who collects the tuition and how it eventually gets to the right place.

- *Develops a Coherent Network of Learning Settings:* Learning finance should be set up to support and encourage dynamic and innovative use of learning settings as needed and available for the learning experience.

- *Adapts Quickly to Needs of Learning Experience:* Learning finance should support investments in technology, buildings, and related staffing, which make them quickly adaptable to accommodate a variety of learning experiences in the same space (and even time).

- *Provides a Sense of Learner Identity:* Learning finance should be supportive of ways to integrate the learning signature throughout the learning process, organization, and environment as a strategy to give the learner a strong sense of identity with the institution.

- *Enhances Social Connectivity and a Feeling of Community Among Learners and Staff:* Learning finance should seek investments that encourage and support close and sustained interaction among learners and between learners and staff central to a feeling of community.

- *Responds to Differences in Learners:* Learning finance should develop student cost structures (e.g., tuition, fees, room and board, transportation) that equalize opportunity for learning in response to learners who vary in age, socioeconomic status, cultural background, prior learning experiences, full-time versus part-time status, and learning style.

- *Provides for Both General and Specialized Study:* Learning finance should support investments that provide high-quality general and specialized study and their close integration.

- *Enhances Informal Learning:* Learning finance should support the development of spaces, communications options, and social interaction that is conducive to informal learning.

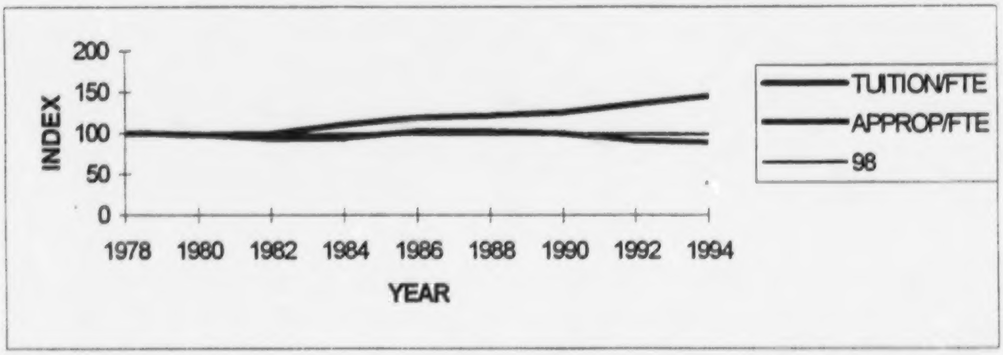
Key Concepts Regarding Learning Finance

This section will explore some of the context and emerging strategies for educational finance and operation that are supportive of NDTYI.

Financial Foundations

The dynamics of public higher education finance are captured in the data displayed in Figure 28. This chart shows that public appropriations for higher education are on an accelerating decline (lower line). Tuition (upper line), on the other hand, has shown a steady increase since 1982.

Figure 28
Public Finance of Higher Education, 1978-1993



However, tuition has not increased sufficiently to compensate for the reduction in appropriations so that total funding per full-time-equivalent student (FTE) (center line) is relatively constant. These data are only an indication of future financial policies. Federal funding will continue to decline and will, in the future, provide an ever-smaller share of support for the TYI (Honeyman, Williamson, & Wattenbarger, 1991). As states take on increasing responsibility for programs formerly funded at the federal level, there will be greater competition among the human services at the state level. This is competition that higher education is unlikely to win; health care, corrections, and elementary and secondary education demands are of a magnitude that legislators must address. Finally, the resources that flow to higher education are likely to be directed to the student and not to the institution. To quote from one policy report, "Radically change the way state funds for higher education are appropriated by giving more to students and less to institutions. Beginning with the 1998-99 biennial budget, we propose . . . that the current practice of allocating 90 percent of the state's appropriation to institutions and 10 percent to students be nearly inverted" (Brandl & Weber, 1995, p. 25).

Clearly, higher education is facing a new reality as to resource supply; privately controlled dollars are replacing public support so that colleges are increasingly dependent upon tuition receipts and, to a limited extent, on voluntary contributions (Frances, 1992, p. 19). In the higher education marketplace of the future, colleges will be required to earn the resources needed to support the educational enterprise. Funding formulae will no longer be the sole consideration of institutional leaders; they will be replaced by a new calculus of value where decisions will shift from legislatures to students and employers, and value will be determined by outcomes. In addition, policymakers will be expected to

> Shift the protocol from the state meeting the institution's need to the college or university meeting the state's needs, and change the budget language from "numbers" to "learning" and "educational achievement." (Albright & Gilleland, 1994, p. 17)

As these new dynamics come into play, higher education is limited in its capacity to respond by a number of decisions made during the 1980s—a period when institutions experienced seemingly endless growth in enrollment and funding. First, increases in the cost of higher education during the decade of the 1980s greatly exceeded changes in the general level of prices (Getz & Siegfried, 1991). Second, institutions elected to invest in new buildings and faculty in anticipation of continued enrollment growth and regular increases in public support (McPherson & Schapiro, 1991). Finally, higher education has what might be called an "edifice complex," where buildings define both process and product—structures that are expensive to operate and maintain (Clotfelter, Ehrenberg, Getz, & Siegfried, 1991).

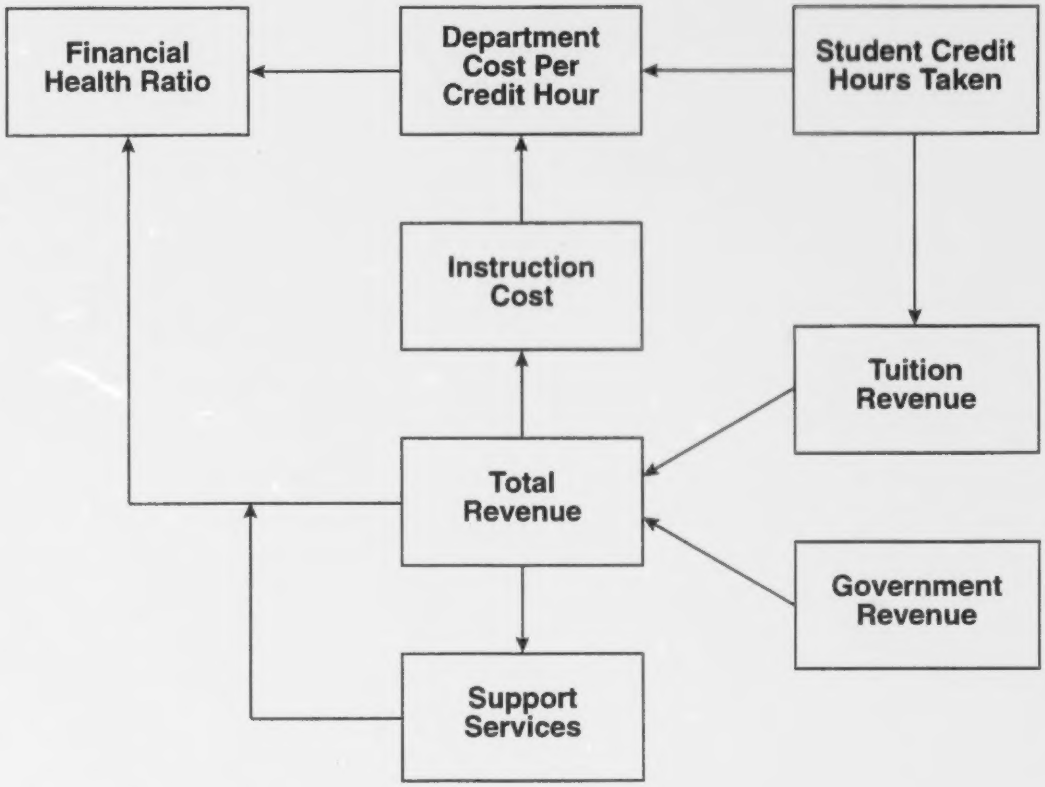
While these decisions were being made, there was a largely undetected transformation of the student body underway. Students became older and more ethnically diverse, with often unfamiliar educational needs and expectations (Kempner & Kinnick, 1990). They also began to "shop around" for the institution most likely to give them real value for their educational dollar (Levine & Riedel, 1987). The result is a set of demands for a wide range of training and support services, which colleges have rarely factored into their considerations of costs and revenues.

In order to cope with these fundamental changes, colleges have looked to a combination of revenue enhancement and cost control. On the revenue side, they have created foundations and engaged in development activities patterned on those of private colleges. They have collectively reached out to legislatures and government agencies to influence the pattern of funding reductions. On the cost side, colleges have developed new methods of cost control and, in some instances, new paradigms for financial management (Kapraun & Heard, 1993). From the perspective of NDTYI, it is these new paradigms that hold the greatest promise for effective finance of the educational enterprise of the future.

In taking steps toward a new paradigm, many colleges have chosen to refine their traditional financial accounting and budgeting practices, thereby locking themselves in a management paradigm ill-equipped for the turbulence of the 1990s (Simpson, 1991). More to the point of this chapter, the teaching institution is locked in a paradigm that cuts across all educational organizations. This is a perspective that sees the work of schooling through the lens of resources. Students are counted only as FTE who generate an average level of tuition so that income can be estimated. Insofar as public policy is concerned, the calculus is limited only to enrollment, since there is no income. On the expense side of the ledger, it is the FTE faculty and its average salary that expresses costs. This gives rise to a narrow view of productivity where SCHs are the bearer of the costs of production embodied in faculty (Massy, 1991).

The pervasive truth of this observation is evident in the variables and relationships pictured in Figure 29. This diagram captures the essentials of contemporary higher education management. The revenue budget is distributed across academic units within a standard set of line-item expenditures. Each unit, in turn, is assigned the number of SCHs earned by the courses it offers. This results in a narrow computation of cost per SCH—and to the comparison of widely dissimilar programs of study.

Figure 29
Management by Spreadsheet


Financial Health Ratio
Department Cost Per Credit Hour
Student Credit Hours Taken
Instruction Cost
Tuition Revenue
Total Revenue
Government Revenue
Support Services

The fundamental dynamic in this paradigm is the generation of cost and revenue by SCHs. On the cost side, courses are offered and student enrollment is translated into SCHs and the consequent unit costs of instruction. SCHs also drive the basic revenue stream through tuition and fees. The cost/revenue balance leads to a number of composite health ratios whereby the institution can compare its condition with others in similar circumstances.

Basic accounting data of this type lead to several key management activities that can be found on every campus. First, the budgeting process is closely tied to the historical activities of collegiate units. Each department can expect to receive a share of the revenue stream of the college according to its most recent experiences. Second, there is an incentive to departments to lower the cost of instruction by increasing class size and "farming out" high cost courses to other departments. Third, revenue and costs are not totally connected in the model, and support services are treated as an afterthought. Finally, there is a tendency to compare departmental costs without regard to differences in programs and subject matters (Meisinger & Dubeck, 1984).

The Need for a New Paradigm

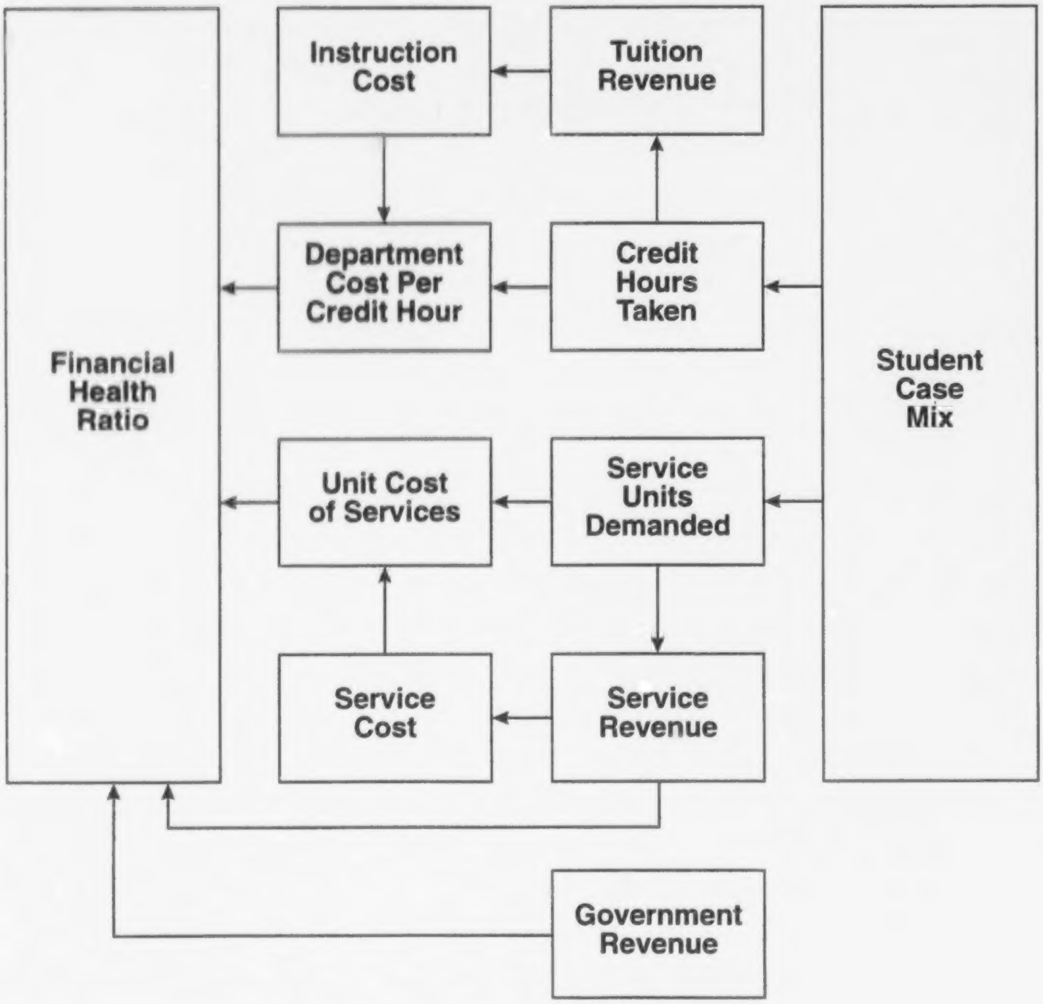
The shortcomings of the traditional spreadsheet approach entered management's consciousness in the late 1980s. Incremental budgeting practices could not be sustained in a resource-short environment. For the first time, managers were required to allocate resources among programs and departments. It also became clear that costs needed to be controlled and brought in line with revenues. Put another way, the dynamic of growth became history and a new economy came into being (Sims & Sims, 1991).

Moreover, changes in the demography and needs of students came into the picture in a subtle—but significant—way. As the variability of the student population increased, colleges experienced greater demand for specialized services. Child care, counseling, chemical dependency treatment, and conflict management all added to the cost of doing the business of higher education (Mangan, 1993).

In the growth years, colleges had funded special services from the pool of general revenues. In effect, state aids and tuition dollars from students needing little or no services were transferred to support programs for the needy. This form of redistribution of resources had little impact, so long as the level of need in the student population remained low. As the costs of these programs grew—many in an exponential manner—colleges were forced to take into account the real costs of the educational enterprise.

For many colleges, unfamiliar services and their associated costs were signals to raise admission standards. These institutions are able to "skim" the market for students with few or no needs for support services, encouraging a lack of institutional responsiveness to a wide range and diversity of students. However, the TYI's mission requires that they pay close attention to the composition of the student body and the associated costs of servicing individual needs. This results in a transitional financial management paradigm; one where the "case mix" of the student body is taken into account (see Figure 30).

Figure 30
The Case Mix Paradigm


Instruction Cost
Tuition Revenue
Department Cost Per Credit Hour
Credit Hours Taken
Financial Health Ratio
Student Case Mix
Unit Cost of Services
Service Units Demanded
Service Cost
Service Revenue
Government Revenue

This paradigm is drawn from the financial practices of medicine and hospital management. These organizations found—not surprisingly—that clients were different and that their demands for services were highly variable. By grouping clients according to service needs, health care was able to link income and cost to create a mix of clients best suited to the organization's capacity to deliver services (Jencks, Dobson, Willis, & Feinstein, 1984).

Case mix adds an important perspective to the traditional paradigm of Figure 29. First, there is an assessment of student condition and needs, which determines the range of instructional and support services students are likely to demand. This makes it possible to estimate the "load" to be placed on instruction and student support services and to make realistic projections of the true cost of all college activities. To the extent that students are charged for both instruction and support services, the flow of revenue follows the student. And the costs of various "case mixes" of students can be analyzed.

However, the focus of management attention remains fixed on financial health. Nowhere in this paradigm is any attention paid to learning. Not even in the limited sense of costs per unit gain. Learning is assumed to take place whenever SCHs are delivered. And the magnitude of learning is reflected in the amount of "seat time" spent by students to accumulate "credits" toward some license or degree. There can be no argument with the proposition that education is instruction, and that, for the most part, it takes place in the institutional frame defined in the above paragraphs.

The institutional focus is also evident in the way government revenues are treated in Figure 30. They are still received and accounted for at the institutional level and apportioned on a per capita basis to the operating units of the college. In effect, management does not recognize the financial implications of case mix variability. It assumes that all students are equally costly, and, in most instances, that there is little or no need for non-instructional services. Here is the starting point for NDTYI. To be seen as credible, however, any new design for finance must be translatable into the concepts and language of Figure 29 and, to some degree, Figure 30.

There are at least three reasons why these paradigms must be taken into account. First, the institutional system of higher education speaks this peculiar dialect. Students attempting to move from one organization to another must measure the value of their learning in terms of credits. Second, those who staff and manage schools and colleges see their world in terms of this ruling paradigm. They see students as seekers after credits; they allocate resources according to the variables of FTE and tuition; and they organize themselves in divisions and departments that house credit-based subject matters. Finally, the buyers themselves—the students—expect organizational forms and practices consistent with the paradigm. They know that "credits are coin of the realm," and they are unconvinced that alternative products such as learning outcomes have value in the marketplace.

This paradigm stands in the way of innovation in several ways. Consider the following issues as seen at the University of Michigan (Whitaker, 1994):

> 1. The focus of our current approach does not provide any incentives for improvement except at the margin. And in almost every case, there is no change proposed except at the margin. The implicit and unstated assumption is that everything else is at its best in quality and effectiveness.
>
> 2. There is no shared sense of responsibility for generating revenue. Indeed, to think about revenue is somehow viewed as selfish and as setting oneself against academic values.
>
> 3. Current incentives for revenues may encourage specific unit revenue generating activities while reducing university revenues (e.g., enrollment reduction or inattention to student retention).
>
> 4. Since current accounting procedures sometimes obfuscate both costs and revenues, it is difficult to understand the financial impact of actions which are taken to improve a unit. (p. 4)

Toward a New Paradigm

The traditional financial management paradigm is one of the most significant roadblocks to NDTYI. It is not only firmly embedded in management thinking, it is also woven into the fabric of daily management by accounting practices and conventional communications. And the management information systems now in place are not readily altered to include new data elements. Even with the inclusion of student case mix-analysis, there is an over-riding emphasis on accounting, budgeting, and management practices, which reinforce a collegiate model of higher education. There is little support for the kinds of analysis and decisionmaking called for by learning organizations. Something must give in order that a new paradigm can come into being.

A transitional financial paradigm which builds on familiar practices while supporting the fundamental changes required by NDTYI is exemplary of the direction that the financial element in NDTYI should move. One illustration of this intermediate schema is the set of assumptions and conventions making up Responsibility Centered Management (RCM) (Robbins & Rooney, 1995; Whalen, 1992).

The basic idea of RCM is a simple one that can be summarized in the notion of "every tub on its own bottom." What this means is that each of the TYI's enterprises is responsible for both costs and revenue associated with it. Costs and revenues are shifted from central administration to each individual enterprise. On the one side, instructional costs are traced to their ultimate use and their contribution to academic productivity assessed (Massy & Zemky, 1995). On the other side of the equation, institutional income is apportioned to the enterprise responsible for generating the revenue. By adding income to the management schema of Figure 30, RCM gives a more complete picture of the financial dynamics of a particular enterprise (see Figure 31). In its purest form, RCM gives all the income to a given enterprise and requires that all costs be met from revenue. Further, RCM allows each enterprise to purchase whatever services it requires from the college. If the enterprise can make a "better deal" with other suppliers, it is free to buy from the lowest cost source.

Figure 31
Responsibility Centered Management

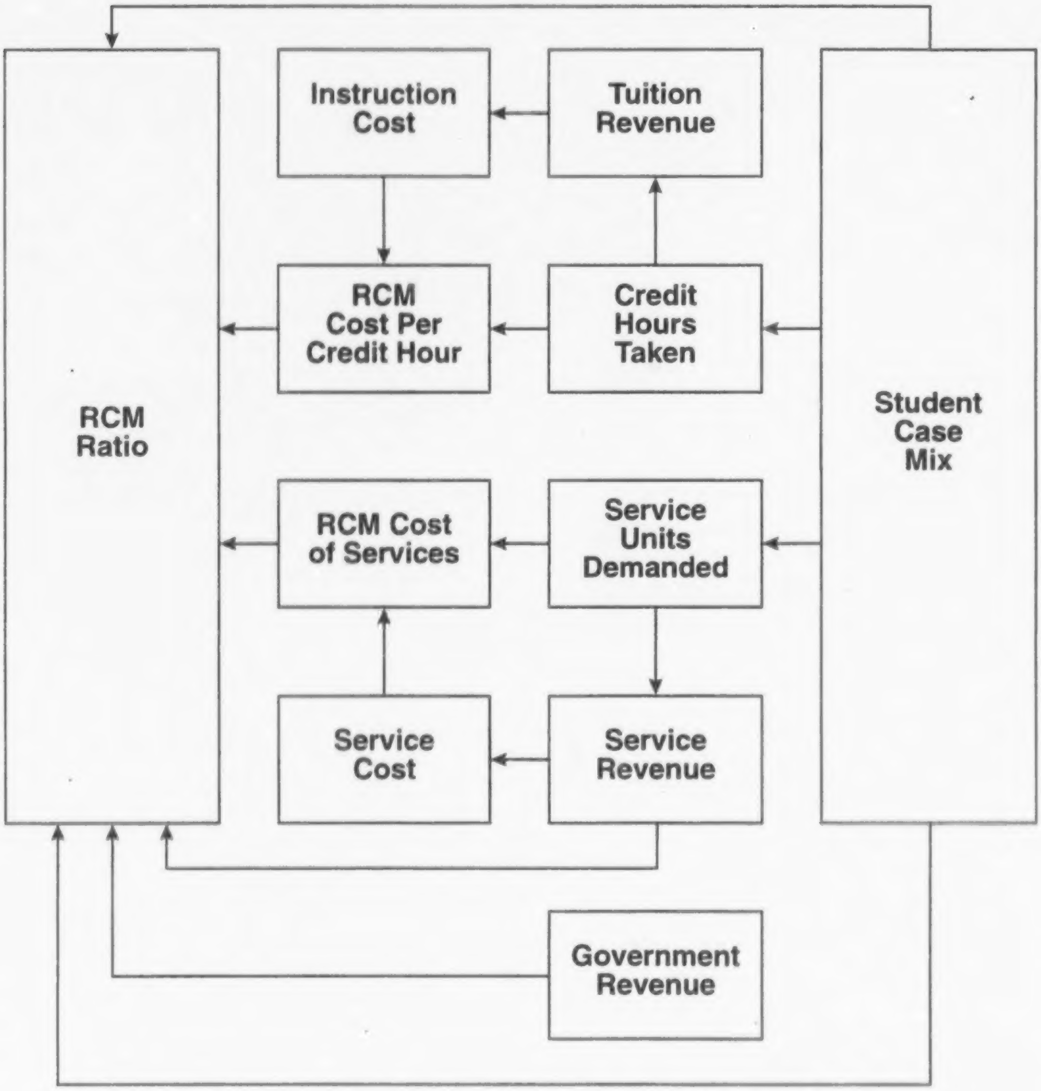

Instruction Cost
Tuition Revenue
RCM Cost Per Credit Hour
Credit Hours Taken
RCM Ratio
Student Case Mix
RCM Cost of Services
Service Units Demanded
Service Cost
Service Revenue
Government Revenue

Figure 31 shows that RCM can be imposed on the more traditional models of financial management. RCM cuts across existing practices to show how enterprise performance follows from the student case-mix typologies it serves. Each center—or enterprise—is responsible for all aspects of student experience and for arranging for services within and outside the TYI. It is the instrument whereby the TYI engages in community and economic development (Hernández-Gantes, Sorensen, & Nieri, 1995). The enterprise is also accountable for revenue generation even though it may receive a share of government revenue on a per capita basis.

This concept is far more revolutionary than it seems; it essentially puts the operations of the TYI on a market footing and clarifies the competitive nature of many TYI enterprises. Thus, RCM can be the mechanism needed to foster innovation; if an enterprise can generate an income stream that can cover costs, it has the potential to develop a market presence over time. Note what is being said here: RCM helps enterprise managers focus on cash flow—rather than the end-of-year audit data. In the words of Omar Khyyam (1923), "Ah, take the Cash and let the Credit go" (p. XIII). RCM is the instrument that makes it possible for the traditional TYI to recognize the dynamics of contemporary higher education and to respond appropriately.

The RCM paradigm is quite familiar to those involved in custom training in the community and technical college. These enterprises possess the structures and practices needed to implement RCM and are, as such, excellent examples to the larger institution hoping to move toward RCM. Concerns for assessment and accountability, as well as profitability, are all present in custom training, and there is a continued emphasis on the contributions of each venture to the goals of the TYI (Bragg & Jacobs, 1994).

Value Centered Management

But education is about more than cash, income, and expense. It is about value—in many forms. Students and employers of graduates look to higher education for knowledge and skills of value in the marketplace. In this sense, value implies return on the investment of student time, tuition, and public support. Value has another important connotation; it speaks of values held by institutions and individuals and their expression in the activities of the college and its constituents. This is Value Centered Management (VCM)—another new paradigm of finance and financial management for higher education (Whitaker, 1994).

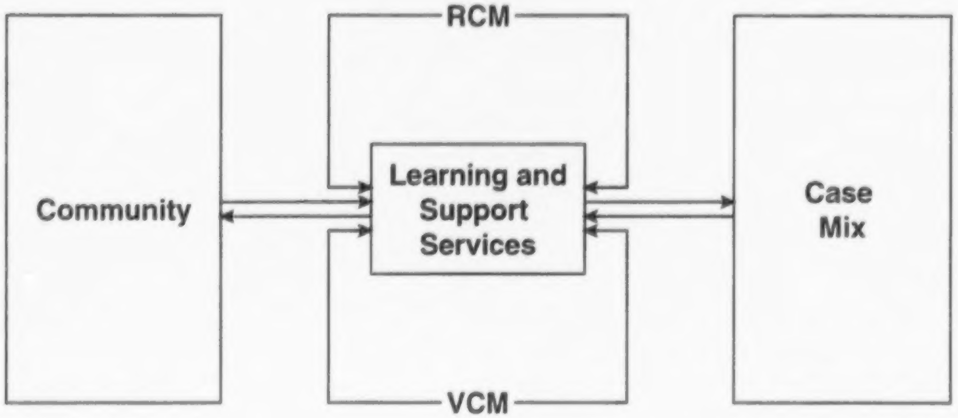
In its simplest form, VCM looks to the business value of educational programs and services; and education attempts to follow the business practices of the 1980s. For-profit organizations have begun to shift their management focus from the bottom line to an assessment of the value of the organization (Reimann, 1987). Within VCM, a set of guiding principles/values are agreed to by all enterprises within an institution. These guiding principles/values govern the actions of the enterprises. The enterprises within the institution agree to take care of certain things together, community outreach for instance. Based on the value these actions/relationships provide to the institution as a whole and to the other enterprises within the institution, some revenue is shared among the enterprises in order to accomplish goals based on the guiding principles. From the perspective of managers, value maximization becomes a primary objective and cash flow an operational measure of the value-generating capacity of various activities. As Copeland (1990) suggests,

> The challenge for business unit managers can be summed up in two words: managing value. To meet that challenge, every business unit manager should know the answers to such questions as: What is the cash flow based value of our business? How does this compare with its potential market value? How much value will our current plans and strategies create vs. business as usual? . . . The trick is to focus not on traditional accounting measures but on cash flows. (p. 23)

It is easy to see how RCM models can conform to the practices of value management—at least insofar as financial measures of value are concerned. If, however, institutions are to take the final step toward VCM as defined by Whitaker (1994), provisions must be made to articulate the values of the TYI with the overall performance of its constituent enterprises. The collective "TYI" must make decisions as to which of its enterprises are to be taxed in order to achieve institutional goals. And it must select those enterprises to be nurtured. What this implies is that successful enterprises are, in some measure, to be used to support other enterprises whose work is central to the purposes of the TYI.

What VCM does is to add another "decision loop" to the financial management practices of the college (see Figure 32). VCM enables managers to look to the collaborator level of the institution and to address the dynamics that define the vitality and purpose of the TYI.

Figure 32
Value Centered Management



VCM—if it is based on a functioning RCM model—addresses the signature component of the learning organization. As the organization seeks to live up to its signature and to adapt the signature to new realities, it must consider the match between its values and those of the surrounding culture. VCM keeps a focus on both value and values so that the TYI can position itself as a major contributor to the community and those things it values most.

As VCM enters into the conversations of financial managers, it extends the discussion from the narrow perspective of conventional financial indicators (Opatz, 1994). Managers are enabled to interact with faculty and other stakeholders in meaningful ways and to share concerns and insights about the ways resources are used to further the educational enterprise. VCM becomes, in effect, a dialect that draws the TYI community into a common debate about the performance of the institution (Morgan, 1992).

Design Specifications for Learning Finance

Financing new learning designs requires major changes in the ways resources are acquired and applied to the learning process. The changes discussed above can be summarized as design specifications for learning finance (see Exhibit 12).

Exhibit 12

Design Specifications for Learning Finance

- *Aligns with learning context, signature, outcomes, process, organization, partnerships, staff, and environment:* Learning finance pays close attention to the design specifications for previous design elements.
- *Integrates local, state, national, and international goals, planning, and resources:* Learning finance brings together multiple sources of funds and enhances flexibility in use of resources.
- *Links risk, responsibility, performance, and reward everywhere:* Learning finance ensures constant accountability, closely relates performance to rewards, and encourages entrepreneurship.
- *Supports re-engineering and innovative actions:* Learning finance encourages the flexibility, autonomy, and courage to experiment with and redesign institutional processes.
- *Uses partnerships as a standard way of doing business:* Learning finance constantly reminds and reinforces attention to controlling costs and enhancing revenues through partnerships.
- *Allocates resources based on value added:* Learning finance ensures that resources get to the places in the institution which add the most value in terms of learning signature and outcomes.
- *Stabilizes funding patterns:* Learning finance provides a continuous and dependable flow of resources with both a short- and long-term view.

The NDTYI approach to finance and financial management is a significant break with the common practices of TYIs. In the "spreadsheet approach" of the past, managers were centered on the cost side of the ledger. They were interested primarily in the variable costs of instruction in programs and departments. There was little recognition of the larger dynamics that drove student flow and the attendant implications for both cost and revenue.

As organizations shift to VCM, there is a concomitant transformation of administrative perspective—from "spreadsheet" to "cash flow." The TYI also becomes an active participant in community development and fosters entrepreneurial activities among its various enterprises. Enterprise leaders understand their student case mix and match all aspects of educational experience to the conditions and needs of students. Enterprises also engage in joint ventures with agencies and organizations in the community, to increase revenue in the short run. As the work of enterprises is shaped by the collaborative, these ventures begin to define the values of the college and to share them with the community.

VCM is one approach for new designs for the finance of TYIs. It is an approach that is in line with emerging higher education finance policy, where value takes the place of institutional support. VCM also plays into the strength of the TYI as it focuses management attention on the outcomes of education—the ways the institution adds value to the individual and the community. Finally, VCM makes it possible for faculty to see, for the first time, how their work is valued, how it contributes directly to student development and institutional vitality.

New Designs for Learning Finance

The National Design Group suggested several examples of exemplary practice with regard to learning finance. Three were selected for brief description here.

Expanded Services

Kirkwood Community College in Cedar Rapids, Iowa, has several years of experience with a Workforce Development Service that provides a wide variety of services to businesses in their geographic area. These services expand the revenue sources beyond the campus-based "teaching" typically provided by a TYI. The Fall 1996 Kirkwood brochure describes a "comprehensive line-up of business courses, seminars, and training services available in the areas of employee growth, business management, computer training, health and safety, technical training, and continuous process improvement."

Revenue Centered Enterprises

Fox Valley Technical College in Appleton, Wisconsin, has 15 years of experience with allocating revenues resulting from training and technical assistance service to business and industry back to program areas for their use and further investment. The college now has nearly three-fourths of all faculty involved in some way in customized corporate training. Fox Valley has found a powerful way to communicate to staff the advantages of innovation and responsiveness.

Using Collaboratives

The technical colleges and universities in various regions of Wisconsin have formed alliances called the Wisconsin Manufacturing Extension Partnership to receive and respond to requests from business for customized training and other services. With the alliance in place in each region, businesses are not plagued by frequent visits from colleges seeking opportunities for training, and colleges and universities are not wasting energy by writing proposals for the same training opportunity. Rather, a board made up of representatives of all the institutions, businesses, and industries meets as a clearinghouse for training needs and allocates the training opportunities to the educational institutions that are most appropriate under prevailing circumstances.

Summary

This section has undertaken the consequential challenge of developing a set of design specifications for learning finance in NDTYI. The National Design Group considered the task formidable, given the traditions of higher education, the funding picture ahead, and the likelihood of escalating costs. The tact taken in the design specifications was to decentralize decisionmaking, increase entrepreneurship, become more flexible and responsive to learners, and pay attention to values.

CHAPTER ELEVEN: LEARNING CELEBRATION*

Our culture is full of all types of celebrations: religious, ethnic, seasonal, historical, and those marking rites of passage. Examples include Christmas, the Day of the Dead celebrations in Mexico, Mardi Gras and May Day, Bastille Day, and one we can all relate to, birthday parties. There are many customs, rituals, and practices associated with these celebrations and they serve very important purposes. As Ingpen and Wilkinson (1996) suggest, "Customs and rituals seem created to fulfill some of our most basic needs, providing guidance, stability and continuity in our daily lives while giving support in difficult times" (p. 6). These authors also explain that rituals help to create feelings of "fellowship, friendship and kinship between family members, and between individuals, families and societies" (p. 6).

Because schools in general and TYIs in particular are so embedded in American culture, they too can benefit from embracing celebrations as part of their operation. For this reason, learning celebration is an important element in the NDTYI process. Celebrations are used to reinforce and recognize the design specifications of each of the previous design elements, from learning signature through learning finance.

Process of Developing New Designs for Learning Celebration

The National Design Group spent time at its last meeting discussing the question, "What are the design specifications and new designs for learning celebration that will lead to the accomplishment of the previous design elements of new designs for the two-year institution of higher education?" These elements included learning context, learning signature, learning outcomes, learning process, learning organization, learning partnerships, learning staff and staff development, learning environment, and learning finance.

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* The initial collection of related literature and first draft of design specifications for learning celebration were done by Patricia Copa. The first draft of this section was written by Peggy DeVries with guidance from George Copa. The overall editing of the section was done by George Copa.

The discussion began with the most common celebration in educational institutions: graduation. It was noted that many students do not go through graduation ceremonies and that they should be recognized somehow, along with those who receive certificates and awards. Another comment was that celebration, in a specification sense, should be continuous and frequent, as opposed to a yearly graduation ceremony.

One group member offered the idea that there should be "celebrations of returning to learning," for those who have chosen to stop out or drop out. Another said, "Yes, welcome them back. We need more than orientation; we need to welcome them back."

From another National Design Group member, "When you graduate you (should) get your own personal patch that you put on a quilt. The quilt is made of your own personal symbol. The quilt gets big—it is hung in a public space. Each person has his or her own patch for the public quilt." Another idea was that students might have a symbol like a patch or sticker for their cars to show "that they are on their way to something."

There was also discussion about rewarding academic excellence in the form of cash rebates, learning adventure credits for future learning, and tuition reductions. The possibility of course vouchers was discussed. A college president explained how her Pathways Program works. It is funded by the Department of Social Services for women who have been on welfare. The twelve-week program helps women to develop a personal and a career plan: "The dining room is decorated with balloons, and there are corsages. The women give personal testimonials about their plans for the future. There are prior graduates who come back and tell stories about how their lives have changed as a result of this program. They invite their children and other family members. We need to figure out more ways to bring people together. We bring legislators in for this event."

One National Design Group member suggested that celebrations be related to quality and rewards. Student plans, he noted, could be posted on a Web Page so that others could learn of their goals. This would be a state-of-the-art kind of celebration. Others mentioned a reverse job fair, where students could learn to market their skills and abilities. Use of more ethnic music in all types of celebrations, including graduation, was suggested. Someone remembered a "Clean-Up Day" at a community college in his community. Participants were fed and then outfitted with rakes in order to beautify the community.

Design specifications such as incentives and motivation were also mentioned in this discussion. Recognition and awards came to mind. It was noted that recognition and awards are typically an individual process, but one which also connects the individual to the community. As an example, it was mentioned that Motorola recognizes work teams: "At Motorola, the president and upper management put on a skit for the employees at least two times a year. It would be like the deans and vice presidents putting on a skit. There are costumes. The president of Motorola comes out with boxing gloves and trunks on. It gives everyone an opportunity to laugh."

Another idea, which seemed important to members of the National Design Group was a large group gathering where the president stands up to recognize people and give out awards. There was also the idea of inventing sessions where people can stand up and present ideas for change and innovation; one of the rules is that no "but" comments are allowed in response to suggestions made.

"Pizza with the President" was endorsed as a good way to celebrate. So was cooking breakfast for employees at special holidays like Christmas. A president noted that she handwrites faculty letters of appointment. Another person shared that she does the same for retirees. The discussion ended with a story about former President Roland Dille of Moorhead State University in Minnesota, who had a ceremony for students who did not graduate. They looked forward to this event as much as the administration did: "It was a picnic environment with speeches for encouragement and good humor."

Discussions and exchanges of this sort took place as part of the process for creating design specifications for celebration. There was also research into the very nature of celebration and ritual, and this information will be shared in the section that follows. Finally, examples of educational institutions celebrating in other new and unique ways were sought. Some of these examples will be described later in this chapter.

Connecting Learning Celebration to Previous Elements in the Design Process

It is necessary for learning celebration to relate to each of the previous design elements. This is required for alignment to occur. In other words, learning celebration has to be designed in consideration of all of the processes and steps involved in the redesign of the whole institution. As an example, learning celebration cannot be considered separately from the learning process, which is centered in constructivism, where learners create their own meanings. Learners will derive their own meanings from the celebrations in which they take part.

So learning celebration must be consistent, supportive, and coherent with each of the design elements. Consider learning signature as another example. With graduation ceremonies and celebrations, the learning signature should play an integral role. It might appear as a graphic element; it might be interpreted dramatically or even musically. The learning signature should be incorporated into whatever celebrations seem useful and important to the institution, for it helps to communicate what the school represents.

Key Concepts Regarding Learning Celebration

In order to understand how TYIs might more fully embrace celebrations and even invent new ones, it is helpful to consider the historical and cultural background of the ceremonies, rites, and rituals which typically accompany them. According to the *Encyclopedia of Anthropology* (Hunter & Whitten, 1976), celebrations include "repetitive and stylized performances of elemental behavior forms characteristic of a culture and the contextual meanings given those forms by cultural tradition" (p. 69). Celebrations occur when there are cyclical disturbances such as a change in the social status and role of a group member or members, or changes in human life conditions.

Cultural anthropologists consider the differences between ritual, rite, ceremony, public performance, festival, and carnival in struggling to define the key concept: ritual (Hunter & Whitten, 1976). They concluded the following:

> The typical contemporary definition of ritual is that it can be identified as formal, patterned, and stereotyped public performances, which differs from

> earlier usages of the term. Historically, anthropologists connected ritual with religious practice. (p. 1120)

Questions related to this study include distinguishing neurotic ritual from social ritual; ". . . formal behavior in informal settings or new contexts; and perhaps most critically, whether or how to distinguish religious ritual from secular ritual" (p. 1120).

Common to the interpretations of Emile Durkheim, who studied the Australian Aboriginals, and Bronislaw Malinowski, who analyzed open-sea fishing practices in the Trobiand Islands, is the "understanding of ritual as a public communication, with society and stability as the message" (Hunter & Whitten, 1976, p. 1121). Anthropologists have long understood that religion and its ritual practices mirror social order. But more recently, they have considered "how ritual can reorganize experience or even create new experience" (p. 1121). The ultimate end of ritual is a dynamic reorganizing of society and lived experience.

Examining ritual and celebration from a broader and less academic perspective, Ingpen and Wilkinson (1996) write,

> All over the world, at the key points in our lives and the highlights of our calendar, we perform special ceremonial actions that follow patterns which find parallels in virtually all societies. The form of each of these rituals is prescribed by society, and an official such as a priest is often present to see that the correct formula is followed. The resulting ceremonies are some of the most intriguing human activities. (p. 8)

Rituals as Turning Points

Ingpen and Wilkinson (1996) note that while rituals can be theatrical and public, others are touching intimate events that often come at life's turning points. Sometimes, people are said to be "born again" as the result of a ritual experience. The author explains, "It is not surprising, then, that participants in rituals are usually deeply involved in what they are doing: the emotions stirred may be some of the most profound we experience and they may have repercussions that last for the rest of our lives" (p. 9).

The purposes that rituals serve are important, according to Ingpen and Wilkinson (1996), for they foster cooperation and collaboration and help to join individuals and communities together. Heuerman and Olson (1997) tell how the self-managed teams in their corporation celebrated after being tested on group process skills:

> If they passed, they would be given a financial reward to be used for a team outing. Of the first fifteen teams, thirteen passed. The other two were successful eventually. One team went to northern Minnesota for a fishing outing. Others went to dinner and to a casino. Some went to horse races. One team had a Saturday night outing planned with a limousine, dinner reservations, and night clubs. They were excited. The week before their night out a team member's brother died in California. The team canceled their outing quietly and used the money to purchase an airline ticket for the team member so he could go to his brother's funeral. (p. 43)

Rituals Provide Coherence and Continuity

Celebrations and rituals serve other functions as well. Ingpen and Wilkinson (1996) writes, "The repetition of actions and words in ceremonies that have been followed sometimes for hundreds of years can create a feeling of coherence and continuity that provides a sense of our place in the larger universe" (p. 10). He adds "continuity" to the list of functions that rituals serve, for many have a long history. Some have survived for centuries because of their religious roots. For instance, Christian and Muslim prayers are based on formulas set out by Christ and Muhammad (p. 10).

New Ritual Practices

Yet, rituals can and do change, and Ingpen and Wilkinson (1996) refers to the ancient European celebration of May Day as an example. For the Celts, May Day was a festival where fires were set to mark the beginning of summer: "They rolled wheels of fire down hillsides, lit bonfires, and drove their cattle through the flames in a ceremony of purification" (p. 10). But the modern May Day has been transformed into a holiday sometimes associated with socialism. In Minneapolis, the Heart of the Beast Puppet Theatre puts on a spectacular May Day parade and festival at Powderhorn Park; this celebration is known throughout the United States. Ingpen and Wilkinson add that new ritual practices may or may not have religious ties. Welfare State International has helped to create naming ceremonies for newborn children, and the British Humanist Association has created funeral ceremonies without religious references for those who want them.

Ritual practices are not necessarily old, for they can be easily adapted to modern issues and challenges. In *Lights of Passage: Rituals and Rites of Passage for the Problems* *and Pleasures of Modern Life*, Wall and Ferguson (1994) explain how rituals can be used today. They suggest rituals of work and career, intimate relationships, family, rites of youth and friendship, divorce, mid-life, and rituals of endings and beginnings. Many of these ritual adaptations would be useful to consider for the TYIs.

Other Ritual Characteristics

Other characteristics of rituals cited by Ingpen and Wilkinson (1996) include those with a seasonal or agricultural flavor. The latter category has much to do with the passing of the seasons or time itself, whether it be midsummer or midwinter. The seasonal festivals are among the most ancient of celebrations, which is certainly true of May Day.

In terms of the number and speed of changes in TYIs, it is also worth considering that rites of passage are common elements in rituals. Folklorist Arnold van Gennep broke rites into three phases: separation, transition, and reincorporation. Explained Ingpen and Wilkinson (1996), "First, the person is cut off from his or her old role. Next, there is a period of adjustment and transition from one status to the next; this often involves some sort of physical transformation. Finally the person rejoins society with a new social status" (p. 129).

Food in Rituals

In many celebrations with accompanying rites and rituals, food plays an important role, and there are many customs associated with eating it. Many are tied to religious rulings such as the culinary rules of Judaism which require the preparation of meat and dairy foods with separate utensils. Food provides rich symbolism in many cultures such as during the Jewish New Year when pieces of bread and apple dipped in honey are eaten (Ingpen & Wilkinson, 1996).

Food customs also relate to giving and sharing and can therefore serve powerfully to bind a group together:

> Sharing food is one of the most important ways in which people can express their friendship and solidarity and this is true whether the meal is formal or informal. The recent revival of annual feasting in some southwestern French villages is a good example of social binding through food. So is a custom of the Wamiran people of Papua, New Guinea, who say that food must be shared with all who have set eyes on it—the exclusion of any such person is a mark of social rejection. (Ingpen & Wilkinson, 1996, p. 133)

Matthew Fox on Ritual

Matthew Fox, a theologian and founder of the University of Creation Spirituality in Oakland, California, has written extensively about ritual and celebration from the perspectives of religion and education. In *Natural Grace: Dialogues on Creation, Darkness, and the Soul in Spirituality and Science* (Fox & Sheldrake, 1996), he writes that the purpose of ritual is to "connect the present participants with the original event that the ritual commemorates and also to link them with all those who have participated in the ritual in the past" (p. 166). He adds, "Ritual is something to do with crossing time, annihilating distance in time, [and] bringing the past into the present" (p. 166).

Citing aboriginals as a group that has educated its young through ritual, Fox (1994) writes, "It's impossible to have a healthy educational system without ritual, and by ritual I don't mean forcing kids in to hear prayer from a pulpit. I mean imbibing the great myths and the great stories that are greater than industrial capitalism" (p. 197). Another benefit of ritual practices among aboriginals is that they release the creativity of the community: "In short, renewed ritual will make community happen again, for a community is a group that *shares a common task together*" (p. 262).

According to Fox and Sheldrake (1996), the desired characteristics of ritual include that it be interesting and connecting; creative and imaginative; a remembrance; and an eschatology or a remembering what hasn't happened yet, a way of experiencing the future. He notes that the concepts related to ritual include a personal story, amazement, a sense of wonder, connection to an original moment of insight, and inventing newness as opposed to freezing novelty. The principles for ritual that Fox (1994) cites include bringing back the body, play, and participation; making room for darkness, silence, and suffering; and awakening the prophet in each person.

In *The Reinvention of Work: A New Vision of Livelihood for Our Time* (1994), Fox describes effective rituals that he has experienced:

> Another time, a large group of us did circle dances on the first floor of a large building that had floor-to-ceiling windows. During our dance, I happened to glance at the windows and saw three men lined up with their noses and hands pressed against the windowpane. Two were homeless persons, and the third had a briefcase (I imagined him to be a lawyer or a banker). It was like a scene from a Dickens novel: The *hunger* was explicit—hunger for ritual, hunger for community, hunger for letting go and for being part of the circle dance of the spheres, hunger for cosmology. For

> me that hungry trinity seemed to represent our entire species, which is so hungry for ritual. (p. 278)

He describes another example in which participants were pelted with flowers. The occasion was the twenty-fifth anniversary of the publication of M. C. Richards' book, *Centering: In Poetry, Pottery and the Person* (1964). At the event, people told many stories about Richards. The weekend was finished off with the Pelting with Flowers ritual of the Papago people of Arizona. Fox (1994) writes, "In it all participants gathered in concentric circles and pelted one another with flowers that had been moistened and softened ahead of time through careful preparation. The philosophy of this ceremony is that we are all here on Earth to strike one another with beauty" (p. 291).

Fox (1994) ends a chapter on ritual with these thoughts:

> There are personal rituals as well as community rituals. Indeed, there are as many forms and occasions for ritual as there are occasions in our social, personal, and cosmic histories. Humanity is the species with a larynx; we are the ones who can do ritual, who can praise, who can remember, who can celebrate an infinite number of sacred moments in our lives, and in the lifetime of the universe itself, who can truly preserve single moments of radiance and "keep them alive in our lives," as Herschel puts it. (p. 295)

Key Concepts

In an effort to more fully understand the nature of celebration, NDTYI turned to the work of Margaret Wheatley (Wheatley & Kellner-Rogers, 1996) and her studies of nature and natural processes. Does nature celebrate, and if it does, what can be learned from it? According to Heuerman, who has studied at Wheatley's Berkana Institute, celebration in nature is organic and probably occurs continuously. Celebration, he noted, is a manmade construct (Tom Heuerman, personal communication, June 2, 1997). Perhaps celebration in TYIs should appear more often than it does. Perhaps it should be allowed to occur more naturally and spontaneously. Learning, after all, is a very celebrative process. Think of the joy of discovery in a young child as he or she learns to take first steps. For the child, learning to walk is definitely a celebration.

The truth is that students, teachers, and administrators need and want celebration and ritual, and there are many avenues for incorporation. In the literature review, it is mentioned that rituals can be related to work and career, intimate relationships, family, rites of youth and friendship, divorce, mid-life, and rituals of endings and beginnings. In thinking about the last area alone, endings and beginnings, many possibilities come to mind for use in the TYI setting. In terms of staff reduction or new hires, there should be rituals or celebrations to mark these important transitions. And given the rate of change projected for the future, students would find it extremely valuable to learn and practice rituals of change, regardless of the context. Celebration and ritual should be a part of every type of activity in the TYI.

Language of Celebration

Concepts that give direction to design specifications for learning celebration include, but are not limited to, the following:

- *Continuity:* Celebrations help to connect the past with the present and the present with the future, one generation to another. Often celebrations and rituals remind us of the past, foreshadow the future, and both reveal the past and the future in the present.
- *Authenticity and Coherence:* It is vital that celebrations fit the institutions that use them. They must be authentic and purposeful for those who will practice celebrating. In addition, any celebrating at TYIs should reinforce all other elements in the design process in order to create a cohesive whole.
- *Transition:* Celebrations are as much about change and moving on as they are about continuity. Traditions like weddings, graduations, birthdays, and even funerals mark transitions in life in very significant ways.
- *Recognition:* This concept describes a fundamental purpose of celebrating, which is to praise. It is important to have gratitude for people and circumstances that allow contribution, growth, and learning to take place.
- *Organic:* Celebrating is a natural phenomenon, and it is one that is a part of everything else. Celebration should be thought about as ongoing and totally integrated (Heuerman & Olson, 1997). Celebrations must stem from the essence of the institution's source; celebrations may differ greatly from institution to institution, or they may be very similar in nature.

- *Connections:* Celebrating has the potential to connect students and all others in institutions to their own divine and creative natures (Fox & Sheldrake, 1996). Celebrating also has the potential to connect people to each other and to the past (Ingpen & Wilkinson, 1996).

- *Support and Recognition:* Celebrating is a way to support and honor each other under a variety of circumstances (Ingpen & Wilkinson, 1996). It may be at life's turning points, such as beginnings and endings, or at other key points. Fox and Sheldrake (1996) add, "Most parents and educators know that if you want to bring out the best in children, you have to encourage them. It's a very basic principal that many parents and teachers have grasped because it works" (p. 64).

- *Remembrance:* Celebrations provide opportunities to remember, particularly the good things in life. They can be a time to reflect, to think back, to be alone with one's thoughts—as such celebrations help to ground one's identity and see what is important over time and throughout the life cycle.

- *Imagination and Creation:* According to Fox (1994), allowing for creative acts or contributions is extremely important in education:

> During the era of the industrial revolution, creativity was marginalized and often considered suspect. It still is. Recently I heard that the New York public school system has eliminated art classes from its curriculum because of budget cuts. The notion that art is a luxury item to the minds and spirits of children—that it can be dropped like a sugary dessert from our diets—contradicts the laws or habits of the universe as we now know them: the universe is intrinsically creative, always begetting, always birthing, always doing new things. What a pity that our human-devised work worlds, including the preparation for work that we call education, have yet to realize the *intrinsic value of creativity.* (p. 116)

Design Specifications for Learning Celebration

The design specifications recommended to guide learning celebration in NDTYI are presented in Exhibit 13.

Exhibit 13

Design Specifications for Learning Celebration

- *Aligns with learning context, signature, outcomes, process, organization, partnerships, staff, environment, and finance:* Learning celebrations must pay attention to the design specifications of previous design elements to form a meaningful and coherent whole.
- *Emanates from, as well as creates, learning cultures:* There are old and new learning cultures, both within and outside of educational institutions. Design specifications for learning celebration should be rooted in these cultures as well as helping to advance them.
- *Reminds of and centers on the learning signature:* Learning celebrations are a means to complete the design cycle and connect back to learning context and signature to make a continuous, coherent, and self-improving loop.
- *Connects and publicly recognizes all participants in the learning experience:* Learning celebration might be public or private, individual or collective. However, it is important to share celebration and recognition in the community and to recognize all contributors to the learning experience (e.g., students, staff, partners, and stakeholders), whether within the institution's community or in the larger community surrounding it.
- *Integrates and is integrated within the learning experience:* As in nature, learning celebration must become an automatic, organic part of the whole learning experience in TYIs.
- *Occurs frequently and continuously:* Learning celebration should not be a rare event, but a frequent and continuing occurrence.

New Designs for Learning Celebration

The National Design Group was not asked to recommend particular celebrations to be highlighted in this part of the section. Rather, they did make suggestions for some learning celebrations that they had experienced or initiated and that had special meaning for them. These suggestions were presented in the introduction to this chapter.

And so the reader is left to invent learning celebrations that they think would be in keeping with the design specifications for learning celebration recommended earlier. One idea that the NDTYI staff developed is as follows:

- Create a cornerstone, which would focus on the best projects and works completed by students. Each student would contribute something of which he or she is proud to a permanent display at the school. Examples could be an original story, a video, a manufactured product, a piece of art, an electronic portfolio, or a solo performance. Each year's contributions to the cornerstone could be commemorated at a fair to which all members of the community would be invited. This would be an acknowledgment of not only each student's work, but of the TYI itself.

Storytelling could be a part of any of an institution's celebrations: stories of successes, stories of failures, and stories of how communities came together to support one another. Think of the stories that can now be told by educational institutions involved in the Red River Valley areas of North Dakota and Minnesota that were recently flooded. Professional storytellers could be brought in to teach the art of storytelling in order to get everyone started. Credit courses in storytelling could also be offered. Stories could be told not only live and in person but also via the Internet and on Web Pages, so that more readers could share in them. There could be storytelling events and festivals throughout the school year.

A final thought is offered about graduation. Perhaps this celebration should be redone entirely. Throw out the caps and gowns, but bring in rituals of transition like plays about dream jobs and dream contributions, or what students' lives could be like in ten years. There is room for storytelling here. Graduate everybody every year to another level of lifelong learning. This should include not only students, but faculty, staff, administrators, and community members.

Summary

Designing down includes consideration of the fact that American culture greatly influences TYIs. Because celebration is a part of the culture and because it serves so many useful and important purposes, it must be an integral step in the design process. For these reasons, this chapter sought to look at how to develop new designs for learning celebration, as well as how to connect them to the other design elements.

The process began with the National Design Group meeting to discuss what some possibilities might be. Many good ideas resulted from these exchanges. The participants realized that the rituals and customs associated with celebration relate to such changes in human life conditions as working out of poverty and adjusting to retirement. The literature review explained how rituals serve such diverse purposes as marking turning points, providing coherence and continuity, even allowing for new adaptations to modern problems and issues. It was shown that celebrations and rituals have a very rich history, but that new applications are not only possible, but required.

Among the scholars studied, Matthew Fox explained how ritual can work to create the notion of community—an important goal for TYIs. He emphasized that Americans are "hungry" for both ritual and community. A number of key concepts for ritual were identified, and they include connections and support.

Design specifications were cited in an effort to provide a platform from which TYIs can work to create their own learning celebrations. Several examples of possibilities were provided to get designers started. This is an area ripe for development.

We completed the last meeting of the National Design Group with a festive meal and storytelling about our adventure together in design. All staff members who had been involved in the process and were available in the area were invited: support staff, Work Group members, resource persons, and the NCRVE Site Director at the University of Minnesota. It was the holiday season, and so we all joined in a song written for the event by William Ammentorp that went as follows (think of Nat):

Hi touch roasting on the social hearth,
Logos that we all oppose.
New designs baptized in a hostile fire
Old ideas wrapped up in new clothes.
        Everybody knows . . .
Those old turkeys just won't go
Down the path to do what's right
So we say any time, any day,
New Designs are with you tonight!

CHAPTER TWELVE: TRANSITIONS TO NEW DESIGNS*

Putting NDTYI to work in the TYI is a major undertaking. Old paradigms and their associated practices must be challenged and, in many cases, fundamentally changed. NDTYI outlines a new postsecondary education paradigm—one that addresses the challenges of work, family, and community in the 21st century. They also speak about a transformed institution; one that is closely linked to students and environment; one that can learn to adapt learning and organizational functioning to emerging realities.

The previous chapters in this report do not suggest how a TYI might carry out the indicated transformations. This chapter fills that gap by offering a perspective on and strategies for organizational change that show how current practices and structures can be modified to move toward NDTYI.

Scanning the Environment of the Two-Year Institution of Higher Education

As we look to the next century, it is clear that higher education will experience a host of new challenges and opportunities. These will result in pressures on institutions that cannot be easily countered by conventional organizations and educational practices. Instead, new designs will be required; institutional forms will need to be invented to enable TYIs to adapt to their environments and to assist stakeholders in dealing with change. It is also clear that there is no viable option for higher education but to engage in a new design process. Private higher education has already shown the way; those institutions that fail to design are likely to fail to exist.

The TYI is at the center of change in higher education. It is the linking organization that helps people of all ages connect with the world of work, family, and community, and it is the pathway whereby access to opportunity is afforded to many otherwise excluded from higher education. However, these basic missions are under severe pressures that can act to disconnect these institutions from their communities (Rosow, 1994). We can collect these pressures under the four categories shown in Figure 33. Each of the four environmental pressures summarizes conditions that TYIs must take into account. They call for new designs that frame the responses of institutions to emerging realities.

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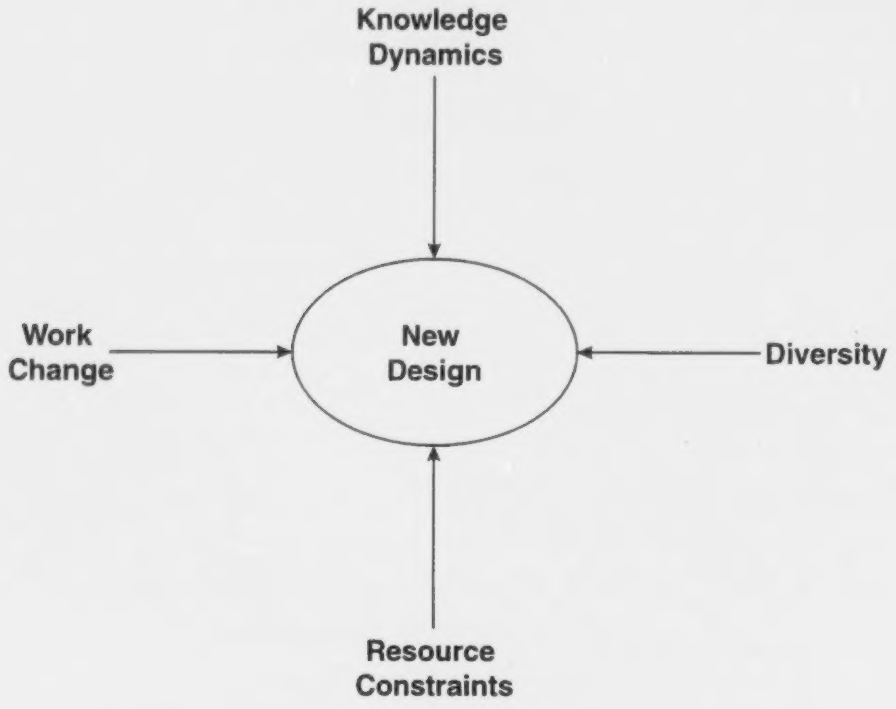
* This section was drafted by William Ammentorp. Additions, particularly regarding operational approaches to making the transitions to new designs, and general editing were provided by George Copa.

Figure 33
The Design Environment for Higher Education



Work Change

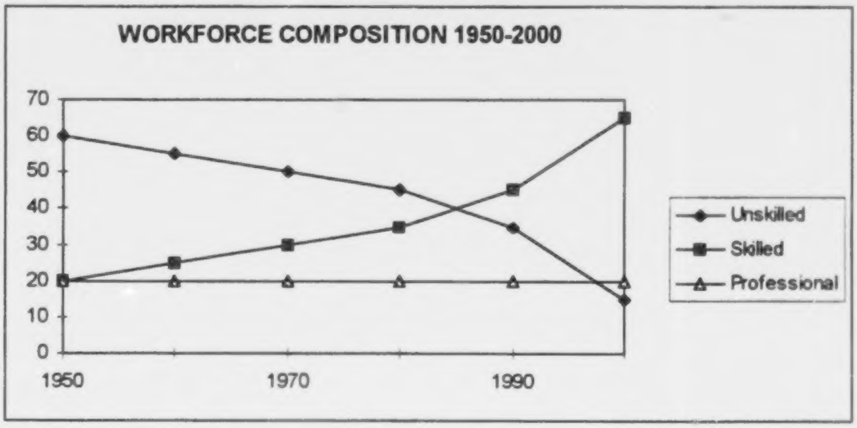
Work is driven by technology, and the measure of higher education increasingly is taken by the extent to which the higher education institution can provide access to jobs. As the Pew Higher Education Roundtable (1994) states,

> Vocationalism is affecting everything from the choice of an academic major to the demand for student services that focuses on job placement. Parents now ask institutions with growing bluntness, "What exactly are we paying for?" and they measure the quality of higher education in terms of their children's ability to garner secure and well-paying jobs. (p. 2A)

This is a global concern, which shakes the very foundations of higher education (Kintzer, 1994).

The magnitude of change in the workplace is summarized by the trends shown in Figure 34 (Halvorson, 1995, p. 56). These data show that in only forty years the labor force composition has changed from unskilled to skilled. If the TYI is to serve its students, it must provide the technical skills demanded by employers and by the students themselves.

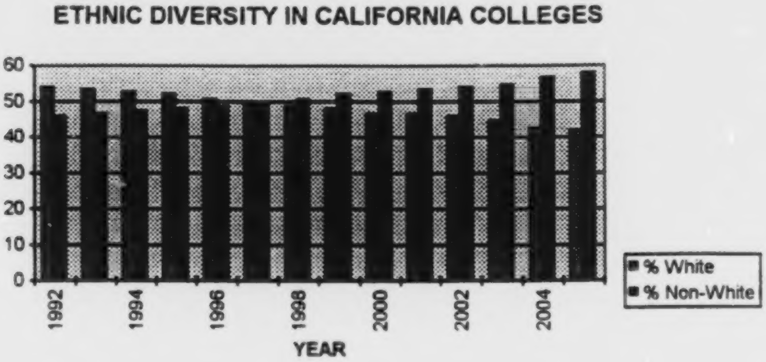
Figure 34
Trends in Workforce Composition, 1950-2000



Diversity

The increasing ethnic diversity of the United States is changing the composition of the student body at many TYIs. The data in Figure 35 shows changes in ethnicity at California community colleges (Commission on Innovation, 1993, p. 3).

Figure 35
Trends in Ethnic Diversity in California Community Colleges



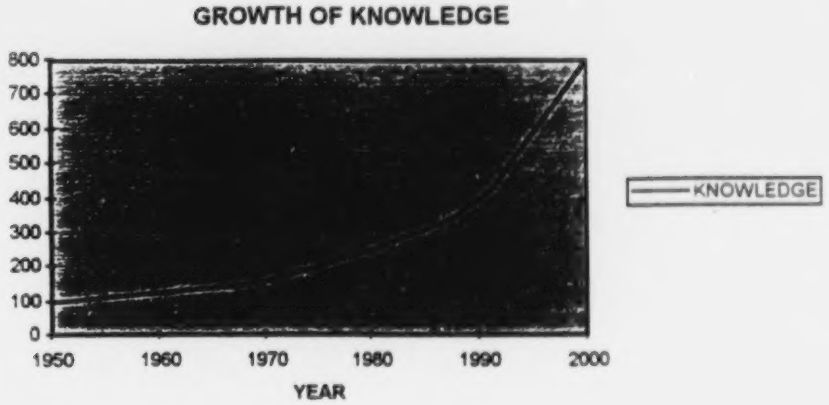
Diversity is not, however, merely a matter of ethnicity. The TYI continues to experience an increase in the average age of students and in the range of their educational objectives. So-called "reverse transfer" of four-year college students to the TYI is giving many a second chance at the baccalaureate (Winchell, 1993); and it is providing baccalaureate degree holders with the technical skills needed to find employment (Kajstura & Keim, 1992).

Corporate downsizing is also contributing to diversity. Large numbers of adults at advanced levels of practice are returning to the TYI to acquire new skills. These individuals bring with them a mature perspective on the workplace and a level of educational expectation that challenges traditional programs and delivery systems.

Knowledge Dynamics

Knowledge in all its forms is a key element of higher education design. We are familiar with the exponential growth of knowledge as pictured in Figure 36. Any measure of knowledge—books, articles, communications—shows a pattern similar to the general graph shown in Figure 36. The growth of knowledge is accelerated by the wide availability of low-cost electronic media (Dordick & Wang, 1993). As the doubling time for knowledge growth decreases—from years to months, and eventually to days—educators will be hard pressed to maintain currency and authority in the subject matters.

Figure 36
Trends in Knowledge Growth



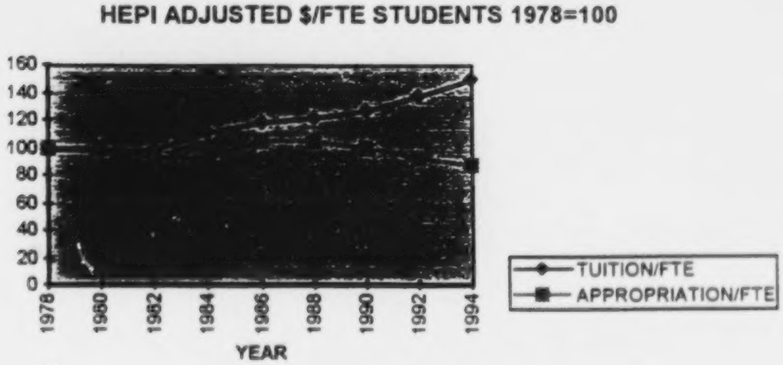
There is a second side to knowledge growth. This has to do with the rapidly increasing numbers of knowledge workers outside the academy. Higher education has created large numbers of individuals trained in conceptual and research skills, people who do the work of the academy at an ever-increasing array of sites. Knowledge and its production (and benefits) is further dispersed by communications technology that weaves producers into a global web (Gibbons et al., 1994).

Knowledge dynamics are defining a new role for higher education where the expertise of faculty is no longer the principal contribution of colleges and universities. Instead, faculty become "navigators" on an information landscape where they guide students toward knowledge and hone the skills needed to conduct and apply knowledge to the problems of practice (Ammentorp & Roca, 1994).

Resource Constraints

The above dynamics define the design problem for postsecondary educational institutions. They create a challenge that will require new forms of organization and new educational practices. At the same time, higher education is experiencing major changes in the form and magnitude of its financial foundations. Public expenditures measured in constant dollars are declining, and higher education is becoming increasingly dependent upon tuition (see Figure 37).

Figure 37
Trends in Tuition and Appropriations in Finances of Higher Education



Along with the decline in public expenditures for higher education, demands for accountability have increased:

> Paradoxically, the diminution of public finance has gone hand in hand with an increased emphasis on accountability. Policy makers and students are both concerned with the outcomes of higher education. As Hood (1996) puts it, the bottom line is, actually, the bottom line. The increased fiscal scrutiny applied to colleges and universities during the recession of the early 1990s has not faded with economic prosperity and revenue growth. Now, more than ever, both public and private institutions are going to have to couple appeals for money with hard-nosed, easily understood measurements and arguments that justify their expenditures and make clear the individual contributions to the social, cultural, and economic well-being of the communities they serve. (Hood, 1996, p. 88)

These measures of accountability are referenced, not to the institutional agenda, but to the wants and needs of stakeholders. Put another way, there will be little or no support for the TYI that neglects the forces outlined above. TYI vitality will be in direct proportion to the extent that it incorporates a diverse student population and helps individuals gain access to the knowledge and skills needed in the workplace.

An Agenda for Change

The above circumstances are a clear mandate for educational change. The TYI cannot continue to do business as usual; it must redefine its signature and reform its practices if it is to be viable in the next century. What is called for is a range of new institutions and radical changes in teaching and learning. These cannot, however, be haphazard modifications of the TYI and its work; they must build to new relationships between staff and learners—and between the institution and its community (Alfred & Carter, 1995).

NDTYI has established a set of new concepts that contrast the traditional TYI with its future potential. Figure 38 shows how each element in the design-down process is anchored in both tradition and prospects.

Figure 38
New Designs for the Two-Year Institution of Higher Education—Changing Concepts

Traditional Concept	*Design Element*	*Future Concept*
Logo	Signature	Cultural Symbols
Subject Matter	Outcomes	Functioning
Instruction	Process	Construction
Collegiate	Organization	Learning Organization
Faculty, Tenured	Staffing	Staff Team, Adjunct
One Way	Partnerships	Reciprocal
Campus	Environment	Virtual
Line Item Budget	Finance	Value Centered Management
Graduation	Celebration	Ongoing

These "anchor words" suggest a continuum of change from the traditional TYI to NDTYI. Figure 38 portrays a sort of "change report card," which can be used to assess the extent to which any TYI is changing in the concepts that define its character and operations.

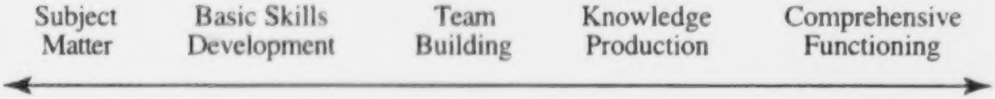
In setting an agenda for change, it is helpful to focus on the design elements that are at the core of the educational enterprise. Thus, it is essential to know how the institution fares on the elements of learning outcomes, learning process, and learning organization.

Taken together, these elements define what the TYI is about and how it organizes educational technology and experiences for the benefit of students. They can be treated as crude scales that define the essential features of the TYI at a point in time, the foundation for change.

The range of learning outcomes shown in Figure 39 defines the end points of a continuum that includes intermediate results like those shown below. Movement along this scale from left to right involves incorporating all previous learning outcomes. That is, knowledge production outcomes include subject matter, basic skills development, and team-building outcomes. And comprehensive functioning relates to the overall goal of "functioning in a diverse and complex environment." Each point on this scale has an associated research and development foundation:

- *Subject Matter:* Curricula founded on the subject matter areas erect barriers that prevent the integration of knowledge needed by students. These curricula also foster the academic-vocational division found in many schools and colleges (Lewis, 1994).
- *Basic Skills Development:* These skills are drawn from studies of the workplace and projections of future occupational demands. They lend precision to educational outcomes and draw the academy into the world of work (SCANS, 1992).
- *Team Building:* Outcomes associated with team functioning and the role of the individual in high-performance organizations add a social dimension to the educational agenda. Such outcomes are expressive of life in global organizations, where collaborative action is the only effective way to deal with complexity.
- *Knowledge Production:* Modern organizations are increasingly dependent on creating and applying new knowledge. Individuals at all levels of the organization require knowledge production competencies that build on a foundation of basic skills and team participation (Gibbons et al., 1994).
- *Comprehensive Functioning:* These outcomes recognize the social context and organizational realities of work, family, and community life. They focus on the competencies needed for life in a complex, global society (Hart-Landsberg, Braunger, Reder, & Cross, 1992).

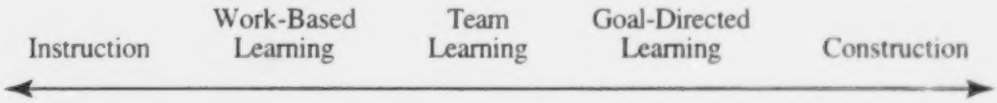
Figure 39
Continuum of Learning Outcomes



The same sort of scale can be constructed for the learning process element where instruction and construction constitute the anchor points as shown in Figure 40. Again, each point on this scale includes all those to its left—team learning includes both work-based learning and instruction. This scale pictures a range of learning alternatives that can accommodate many different student needs and styles, as well as a variety of roles for teachers.

- *Instruction:* Lectures and other didactic teaching practices are at the center of instruction-based learning processes. These approaches grow out of the subject matter areas to define the traditional academy.
- *Work-Based Learning:* On-the-job training, apprenticeships, and the like are used to give the student a "hands-on" learning experience. It is a key component of "school-to-work" models and an important step in "unfreezing" instructional systems (Bragg et al., 1995).
- *Team Learning:* Collaboration is an emerging theme in all aspects of organizational life. It is no less so in learning, where team efforts have been shown to be highly effective in improving student engagement in the learning process and in connecting learning to the external environment (Mathews, 1995).
- *Goal Directed Learning:* For the individual student to become adept at directing her or his own learning, each needs to develop a goal and a plan for its attainment. Goal directed learning articulates the goals of the student with the objectives the college offers (Ram & Leake, 1995).
- *Construction:* All of the above learning modalities come together as students work in teams, pursuing their personal goals through collective construction of products and new knowledge. The shift in learning from instruction to construction is the fundamental change proposed in NDTYI (Harel & Papert, 1993).

Figure 40
Continuum of Learning Process



The element relating to the organization of learning is located on a scale bounded by the collegiate model on one hand and the learning organization on the other (see Figure 41):

- *Collegiate:* This is a pattern of organization based on subject matter where organizational units are derived from the curriculum. It is a mirror to the model of the traditional academy (Eaton, 1994).

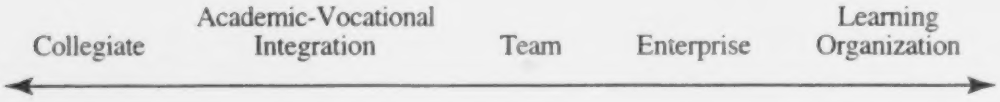
- *Academic-Vocational Integration:* Here we have an evolution of the collegiate mode of organization that essentially builds alliances across the traditional divisions in TYIs. It is a softening of familiar organizational schema to permit the formation of new majors and/or programs (Grubb & Kraskouskas, 1992).

- *Team:* In moving to this model, the college draws students and staff into affinity groups where common interests take the place of individual goals and traditional organization structure. Teams build learning communities that cut across inter- and intra-institutional boundaries (Smith & Hunter, 1988).

- *Enterprise:* As teams take full responsibility for educational inputs and outcomes, they become enterprises. These entities rise and fall in response to changes in the environment, market demand, and evolution of knowledge (Alfred & Carter, 1995).

- *Learning Organization:* All members of the organization and their various enterprises enter into dynamic relationships which foster learning—for students and for the organization (Senge, 1990).

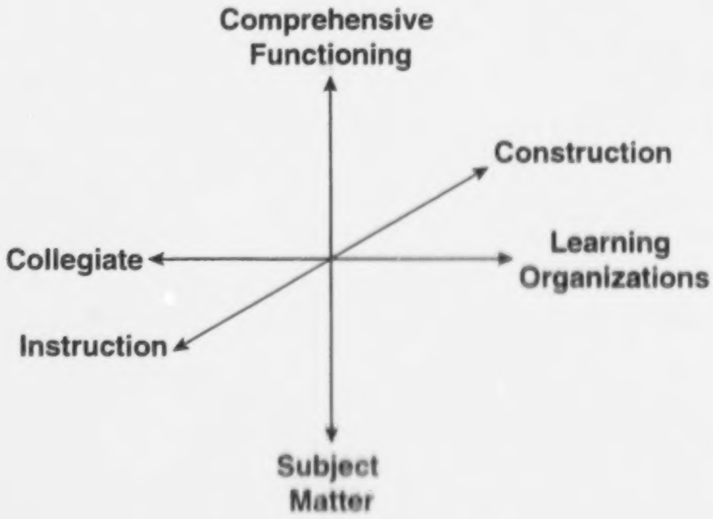
Figure 41
Continuum of Organization of Learning


Collegiate
Academic-Vocational Integration
Team
Enterprise
Learning Organization

Developing the Agenda

Although it is possible to approach organizational change through any one of the above design elements, it is also productive to develop an agenda for change by considering them together. This is due to the fact that it is the interaction of elements that defines the organization for those that work and study within it. In popular terminology, the elements give concrete form to student, faculty, and staff perspectives; they constitute the ruling paradigm of the organization (Simsek & Ammentorp, 1993). What this implies is that the elements come together to point to exemplars that serve to define the paradigm in action (Immershein, 1977). We visualize exemplars by locating programs and/or TYIs in a three-dimensional space like that shown in Figure 42.

Figure 42
Positioning the Educational Organization


Comprehensive Functioning
Construction
Collegiate
Learning Organizations
Instruction
Subject Matter

Exemplars are in the "corners" of Figure 42; they are the archetypes of organization—defining ruling paradigms that are grounded in learner expectations, learning approaches, and organizational structures. For example, a TYI whose mission is to prepare students for transfer to four-year programs is likely to be in the "corner" where subject matter areas define outcomes, instruction shapes the learning process, and organizational structure is collegiate. By way of contrast, the TYI that is tightly linked to the workplace is likely to have outcomes that focus on basic skills, a learning process that is work-based, and an organization that fosters academic-vocational integration. Finally, the NDTYI exemplar is the institution defined by learning outcomes that support comprehensive functioning and learning processes that are constructivist in nature, and that are located in the context of a learning organization. The point of these exemplars is that a TYI can be located anywhere in Figure 42 and it can set an agenda for change that will move it to a position that is thought to be more in keeping with its view of the future.

An interesting feature of Figure 42 is that in the center of the space is where each design element emphasizes some aspect of teams and teamwork. In the exemplar at the center, team organization prevails, outcomes have to do with team building, and team learning is the means whereby students acquire the capacity to work collaboratively. By moving toward this configuration, TYIs can set a powerful dynamic in motion where all aspects of organizational life focus on teams. The center is not only a good place to be, it is an excellent exemplar from which to design the future.

There are, of course, other ways of framing the change agenda (Alfred & Carter, 1995; Lorenzo & LeCroy, 1994). Whatever the approach taken, it is imperative that a starting point be selected and a course set for the future. The NDTYI framework of Figure 42 brings the fundamental elements of organizational life into the change equation and makes it possible for the TYI to see clearly how its objectives, work, and structure need to be transformed.

Transforming the Two-Year Institution

The thesis underlying NDTYI is that the TYI is the institution that will determine the future for its community and, in concert with other higher education institutions, for the nation. TYIs will be at the vortex of change in work, family, and community life, and if it is to be a viable participant in the future, it will be called upon not to change, but to transform. To transform is a popular—and popularized—idea, one that has captured the imagination of public and private sector organizations (Green, 1996; Rosen, 1996). If transform means "to change form," the TYI may not make the fundamental alternations in its work and structure called for by the circumstances it faces in the next century. Instead, it may simply be the same institution in a new shape—like the "transformer" toys of the 1980s.

To transform in the sense that NDTYI implies, a whole new and different approach to the educational enterprise is required—one that is trans-formal in the sense of being beyond the formal, collegiate institutions of today (deThomasis et al., 1991). Transformation requires a break with old paradigms and their associated academic and social institutions, a change of mind as well as a change of practice.

In this sense, transformation is a major challenge for educational organizations. The academic "college" is a paradigm deeply ingrained in the social fabric of nearly every culture. It generally has a legal foundation where operating concepts such as credit hours are written into law. Moreover, the "college" paradigm is rooted in the expectations of students and those who hire graduates. So, to transform this institution is a major undertaking requiring changes of mind for everyone involved.

However, the "college" paradigm is one that has been shown to have serious limitations (Alfred & Carter, 1995). The problems it cannot solve are sufficiently numerous as to call the entire paradigm into question; a condition many argue to be necessary for paradigm change (Kuhn, 1970; Sterman, 1985). When this occurs, the old paradigm of the "college" can collapse catastrophically; or it may be transformed to enable it to deal with new problems and expectations.

NDTYI is an attempt to begin conversations concerning the paradigms underlying the TYI—to question the capacity of the conventional "college" to survive in the turbulent environment of the future. These conversations are at the center of the change process; they are not the result of change. They are the initiators of change, making it possible for individuals to see the organization and their work in new ways (Ford & Ford, 1995). Conversations are the dynamic that transforms outdated paradigms into new patterns of thinking and acting.

In this chapter, we have defined a set of terms that can shape the topics of conversations about change. And in Figure 42, we have shown how these terms are related to one another in familiar, educational paradigms. Figure 42 also contains the stimuli needed to initiate conversation by showing all members of the TYI community where they stand at present and what their options might be for the future.

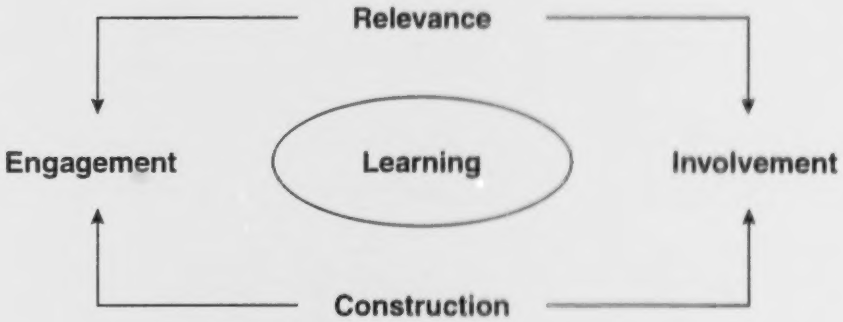
The conversations we hope to set in motion through NDTYI are not intended to focus on the details of TYI life. Instead, they are directed at the prevailing myths and metaphors that undergird the "college" paradigm. If the TYI is to be transformed, it must question the mythology that gives rise to the beliefs and practices we associate with the academy (Marshak, 1993). Through such conversations, the institution may be able to move to a more viable position in the "space" of Figure 42.

Leading the Transformation Process

Leading transformation can be viewed as guiding an organizational learning process. As we have noted in our discussion of the learning organization, transformation is the "learning loop" that keeps the institution in a productive relationship with its environment. New designs are constructed via the conversations surrounding the elements of Figure 42. As Van de Ven and Poole (1995) have noted, organizational change is frequently constructive, especially in those cases where the environment is highly turbulent, as it surely is in postsecondary education.

From this starting point, we can approach organizational transformation using the same learning process we have designed for students (see Figure 43). To put this process to work, leaders initiate conversations concerning relevant organizational alternatives. These conversations begin by placing the college in the "space" of Figure 42; students, staff, and stakeholders talk about the current status of the institution using the language of NDTYI. As discussion unfolds, leaders can point to other "benchmark" TYIs located in desirable "regions" of Figure 42. These organizations help those participating in the change conversation visualize alternative futures for their work and their TYI.

Figure 43
The Organizational Learning Process



Benchmarks serve other purposes. They offer rich detail that challenges participants and excites the interest needed for full engagement in the change process. Benchmarks also provide the subject matter of realistic scenarios, which in turn focus the conversation on possible future directions for the organization. Leadership takes form here through scenarios. By sketching realistic—and challenging—scenarios, leaders can shape conversations and, by shedding a different light on the educational enterprise, move the focus of discussion from the past to the future.

Involvement is the social side of the organizational learning process, where the organization interfaces with its environment. Stakeholders both inside and outside the organization become involved in the change conversation and add their interests and insights to the process.

Again, it is the responsibility of leaders to make the connections with stakeholders and to make certain that key representatives are involved in the conversation. As discussions unfold, there is a growing base of support for the new design and a sense of ownership of the institution by the community.

All these activities represent construction of a new organization. These are not aimless conversations; they are organization-building. If the promise of organizational learning is to be realized, leaders must ensure that actual construction takes place (Myran, Zeiss, & Howdyshell, 1996). Conversations must lead to action within a reasonable length of time. And the actions must be aligned with issues and ideas raised by participants.

Some Operational Strategies

To assist in thinking through more operationally the priorities and processes to move toward NDTYI for a TYI, a series of guides has been designed and is shown in Exhibits 13-18. The guide shown in Exhibit 13b can be used to describe the present state of affairs at the TYI of concern and the new design that the institution has in mind. The new design should be the result of working through each of the elements in the design-down process for the institution, similar to what was done with the National Design Group for the NDTYI project. What should be evident after completing the guide in Exhibit 13b are the gaps between what is and what is desired. These gaps can then be prioritized to identify where to focus the initial efforts of the transition to the new design, perhaps taking advantage of areas for focus that, for one reason or another, are going to be dealt with anyway.

Exhibit 13a
Design Specifications for Learning Celebration

- *Aligns with learning context, signature, outcomes, process, organization, partnerships, staff, environment, and finance:* Learning celebrations must pay attention to the design specifications of previous design elements to form a meaningful and coherent whole.
- *Emanates from, as well as creates, learning cultures:* There are old and new learning cultures, both within and outside of educational institutions. Design specifications for learning celebration should be rooted in these cultures as well as helping to advance them.
- *Reminds of and centers on the learning signature:* Learning celebrations are a means to complete the design cycle and connect back to learning context and signature to make a continuous, coherent, and self-improving loop.
- *Connects and publicly recognizes all participants in the learning experience:* Learning celebration might be public or private, individual or collective. However, it is important to share celebration and recognition in the community and to recognize all contributors to the learning experience (e.g., students, staff, partners, and stakeholders), whether within the institution's community or in the larger community surrounding it.
- *Integrates and is integrated within the learning experience:* As in nature, learning celebration must become an automatic, organic part of the whole learning experience in TYIs.
- *Occurs frequently and continuously:* Learning celebration should not be a rare event, but a frequent and continuing occurrence.

New Designs for Two-Year Institutions of Higher Education

Transition to New Designs

Design Element	Present State	*and*	New Designs
Signature			
Outcomes			
Process			
Organization			
Partnerships			
Staffing			
Environment			
Finance			
Celebration			

Exhibit 13b. Transition to New Designs

Copa and Ammentorp
New Designs for the Two-Year Institution of Higher Education
University of Minnesota
7/15/96

The guide shown in Exhibit 14 is set up to identify benchmark institutions that can be of assistance in seeing and examining new design ideas in practice. One must search nationally and internationally for institutions that have in place the new designs that the TYI of concern wishes to implement. Benchmarking institutions may be more "maverick" (Alfred & Carter, 1995) than simply "top notch" institutions. In most cases, the benchmark institution will be another educational organization; however, in some cases, it may be necessary to look beyond educational institutions. Benchmarking studies can then be done to identify aims and processes that are of interest and how they were put in place. Benchmark institutions can also become institutional mentors for the TYI.

New Designs for Two-Year Institutions of Higher Education

Benchmarking New Designs

Design Element	Your Institution	Benchmark Institution
Signature		
Outcomes		
Process		
Organization		
Partnerships		
Staffing		
Environment		
Finance		
Celebration		

Exhibit 14. Benchmarking New Designs

Copa and Ammentorp
New Designs for the Two-Year Institution of Higher Education
University of Minnesota
7/15/96

Exhibit 15 shows a guide set up to think through where in the organization the responsibility will be fixed for the various design elements and where the new design specifications will be implemented. In some cases, it is very evident who should be in charge (e.g., learning outcomes, process, and organization to the vice president for academic affairs), but in others, new organizational structures may need to be created or revised.

New Designs for Two-Year Institutions of Higher Education

Responsibility for New Designs

Design Element	Organizational Responsibility
Signature	
Outcomes	
Process	
Organization	
Partnerships	
Staffing	
Environment	
Finance	
Celebration	

Exhibit 15. Responsibility for New Designs

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Exhibit 16 provides a guide to decisionmaking about the time schedule and sequence for implementing new design ideas. All elements probably cannot be implemented at the same time; therefore, a short- and long-range plan may be helpful and necessary to see the big picture regarding implementation.

New Designs for Two-Year Institutions of Higher Education

Time Schedule for New Designs

Design Element	Year 1	Year 2	Year 3	Year 4	Year 5
Signature					
Outcomes					
Process					
Organization					
Partnerships					
Staffing					
Environment					
Finance					
Celebration					

Exhibit 16. Time Schedule for New Designs

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University of Minnesota
7/15/96

As shown in Exhibit 17, the planning process is usually addressed in stages of increasing specificity. The design specifications resulting from applying the design-down process to a TYI will result in general, strategic directions for the institution. These need to be "stepped-down" to the operational and tactical planning levels in order to ensure implementation. The more detailed planning might best be delegated to the area of the organization given responsibility, as specified in Exhibit 15.

New Designs for Two-Year Institutions of Higher Education

Strategic to Tactical Designs

Design Element	Strategic	Operational	Tactical
Signature			
Outcomes			
Process			
Organization			
Partnerships			
Staffing			
Environment			
Finance			
Celebration			

Exhibit 17. Strategic to Tactical Designs

Copa and Ammentorp
New Designs for the Two-Year Institution of Higher Education
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Last, Exhibit 18 gives the format for essential components of an operational plan, moving from the strategic level to much greater detail concerning timelines. Operational plans usually include purpose, activities, timelines, responsibilities, and budget needs. Conscientious monitoring of operational plans is often necessary to bring new designs into practice.

New Designs for Two-Year Institutions of Higher Education

Operational Planning for New Designs

Design Element	Purpose	Activities	Timelines	Responsibility	Budget
Signature					
Outcomes					
Process					
Organization					
Partnerships					
Staffing					
Environment					
Finance					
Celebration					

Exhibit 18. Operational Planning for New Designs

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Some Operational Caveats

Based on the discussions of the National Design Group, the NDTYI staff, and experiences in assisting educational institutions with developing and implementing the design-down process, the following administrative leadership caveats may be useful to consider for those responsible for new designs for a TYI:

- Leadership will need to operate effectively in a context where the present design and new designs are not separated by an "or"; instead, they are connected by an "and." The transition will likely be gradual, and for some time both the existing design and the new designs will be in operation at the same time. Therefore, skill at handling ambiguity and inconsistency will be important.

- Leadership will need to help an institution and its stakeholders "learn their way into the future." No one person is likely to have the answers well in advance. Design and its implementation are likely to be more like a continuing seminar and conversation than a one-time process, with clear beginnings and ends and processes.

- Leadership will need to secure the support of the most important stakeholder in order to sustain the design process through to implementation—the trustees (if they exist or their surrogate), the staff, and the students. Implementing major change akin to new designs takes five to seven years, so leadership must make a commitment to see it through and have the support to follow through on that commitment.

- Leadership will need to start the new designs process for an institution before it is really evident that it is necessary to the institution's future vitality. The energy and resources needed to develop and implement new designs are such that they are most readily available when the institution is still operating fairly well. Once it is in serious trouble, resources are usually much tighter, downsizing has begun to occur, and extra efforts are going into trying to make the institution work in its old ways (old designs).

- Leadership will need to keep linking the design specifications for the various design elements, which are both interactive and interdependent, to achieve the coherence and alignment that will produce quality and efficiency (see Figure 44).

- Leadership will need to keep monitoring the development design specifications for each element in the design process to see if they are responsive to the design criteria emanating from the first element, the design context (see Figure 45). It may be that the design specifications for some elements more powerfully address certain design criteria than they do other criteria. However, in the end, all of the design criteria should be clearly addressed by the design elements as a whole.

- Leadership will need to search for and create motivating forces to keep up the energy, focus, and will to change existing practices to those of the new designs. Educational institutions are notorious for their inertia and lack of ability to sustain long-term change. The leadership will need to keep from burning itself out, as well as not pushing the institution to the "crash and burn" stage, where all is lost.

- Leadership will need to keep integrating the new design and its implementation into the fabric of the institution, rather than creating a second organizational structure and operation at great cost but with little possibility of resulting in one coherent institution.

Figure 44
Interaction Among Design Process Elements – Designing Down, Up, and Across

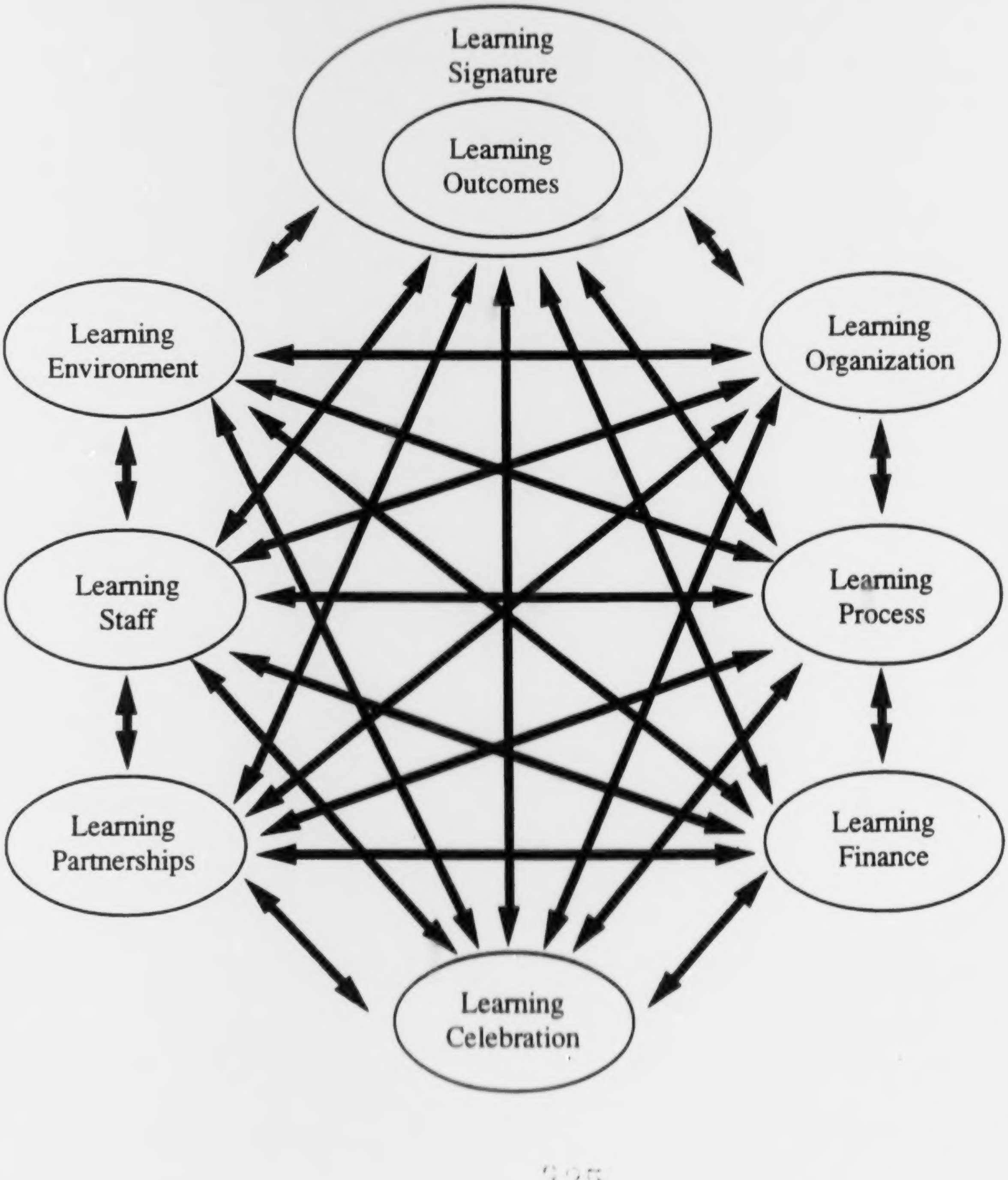
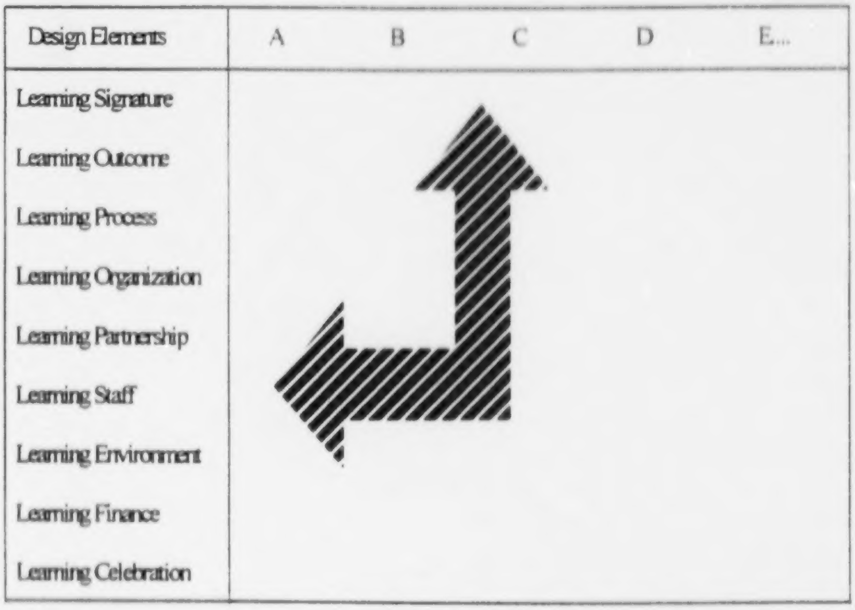

Learning Signature
Learning Outcomes
Learning Environment
Learning Organization
Learning Staff
Learning Process
Learning Partnerships
Learning Finance
Learning Celebration

Figure 45
Relating Other Design Elements to Design Criteria (Learning Context)


Design Elements
A
B
C
D
E...
Learning Signature
Learning Outcome
Learning Process
Learning Organization
Learning Partnership
Learning Staff
Learning Environment
Learning Finance
Learning Celebration

Summary

By way of summary, it is important to note that the processes of benchmarking, conversation, and organizational learning are continuous. There is, in effect, no end to the processes; the organization continues to re-design itself so that it is continually examining its environment, how it does its work, and the efficacy of its structures. To lead such processes requires a vision that allows goals to change—always seeking the promises of new designs for a future where major social issues interact with resource constraints and exploding knowledge (Gallego, 1996).

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Jill Jenson, University of Minnesota - Duluth, Duluth, MN

Michael Johnson, Dean of Students, Itasca Community College, Grand Rapids, MN

Paula Leland, Hermantown School District, Hermantown, MN

James Morales, Office of Admissions, University of Minnesota - Duluth, Duluth, MN

Paula Pedersen-Randall, Department of Psychology, University of Minnesota - Duluth, Duluth, MN

Diane Rauschenfels, Department of Education, University of Minnesota - Duluth, Duluth, MN

Mary Reuland, College of St. Catherine - Minneapolis Campus, Minneapolis, MN

Mary Stafford, Duluth Public Schools, Carlton, MN

Jean Tills, University of Minnesota - Duluth, Duluth, MN

Koua Vang, University of Minnesota - Duluth, Duluth, MN

MnSCU-Kellogg Leadership Exchange Fellows

Verdell Beste, Ridgewater College, Hutchinson, MN

Joan Costello, Inver Hills Community College, Inver Grove Heights, MN

Jeanette Daines, Minnesota State Colleges and Universities, St. Paul, MN

Doug Derr, St. Paul, MN

R. Lee Dietrich, Hibbing Community College, Hibbing, MN

Michael T. Fagin, Mankato State University, Mankato, MN

Jim Haviland, St. Paul, MN

Jay Hutchins, Dean of Student Affairs, Pine Technical College, Pine City, MN

Joyce C. Johnson, Associate Dean of Academic Affairs, Riverland Community College, Austin, MN

MnSCU-Kellogg Leadership Exchange Fellows

Holly Mawby, Horticulture Department, South Central Technical College, Faribault, MN

Teri McKusky, Hibbing Community College, Hibbing, MN

Mary Messimer, Hibbing Community College, Hibbing, MN

Terri Olson, Payroll Director, Moorhead State University, Moorhead, MN

David Rafter, Minneapolis, MN

Jim Schmidt, Dean of Student Affairs, Riverland Community College, Austin, MN

Barb Seiler, Affirmative Action Officer, Moorhead State University, Moorhead, MN

Patrick Spradlin, Central Lakes College, Brainerd, MN

Carol Steimer-Bailey, Hennepin Technical College, Eden Prairie, MN

Century Community and Technical College

James Meznek, President, White Bear Lake, MN

Gail Westby, Director of Institutional Resources, White Bear Lake, MN

Riverland Community College

Rick Casey, Director of Institutional Development, Austin, MN

John Gedker, President, Austin, MN

APPENDIX 2:
NATIONAL DESIGN GROUP MEETING AGENDAS

New Designs for Two-Year Institutions of Higher Education

NATIONAL DESIGN GROUP
MEETING AGENDA
August 21-22, 1995
University of Minnesota
St. Paul, Minnesota

Monday, August 21, 1995

8:30 a.m. Meet in the lobby of the Radisson University Hotel for transport to the Vocational and Technical Education Building on the St. Paul Campus of the University of Minnesota

9:00 a.m. Convene in room R390 of the Vocational and Technical Education Building

Morning Session

Welcome

William Ammentorp and George Copa, Project Co-Directors, New Designs for Two-Year Institutions of Higher Education, National Center for Research in Vocational Education, University of California at Berkeley

Charles Hopkins, Director, National Center for Research in Vocational Education, University of Minnesota site

Introductions

National Design Group members (Be prepared to take 5-10 minutes each to share some background on your work and life experience, linkages to two-year institutions of higher education, and challenges in your present responsibilities relating to improving education.)

Project staff

Questions

Q1: Why this project and this National Design Group?

Q2: What *design process* has been proposed?

Q3: What role should the National Design Group play in this project?

Q4: What is the design context (e.g., goals, problems, opportunities) for two-year institutions of higher education in the United States?

11:30 a.m. Lunch break at the St. Paul Campus Student Center

12:45 p.m. **Afternoon Session**

Questions

Q5: What *learning signature* should uniquely characterize the 21st century two-year institution of higher education? (Be prepared to propose a signature that best communicates your desired image or vision of the future two-year institution of higher education. The signature might be in the form of a symbol, picture, phrase, object, person, music, or some combination of these and or other forms of representation.)

Q6: What should be the *learner outcomes* for the future two-year institution?

- Purpose of learner outcomes
- Criteria for appropriate learner outcomes
- Process of developing learner outcomes
- Proposed learner outcomes
- Issues and questions

4:30 p.m. Adjournment

Return to Radisson University Hotel

6:30 p.m. Dinner (We will be joined by Robert Bruininks, Dean, College of Education and Human Development, University of Minnesota; Judith Eaton, Chancellor, Minnesota State Colleges and Universities; Charles Hopkins, Chair, Department of Vocational and Technical Education, University of Minnesota; and Gary Mohrenweiser, Chair, Board of Trustees, Minnesota State Colleges and Universities. Dinner will be served in the Regents Room of the Radisson University Hotel.)

Evening Session (following dinner)

A Sketch of the Final Product (drawing from New Designs for the Comprehensive High School)

An Introduction to the Leadership Academy for Two-Year Institutions of Higher Education, College of Education and Human Development, University of Minnesota

9:00 p.m. Adjournment

Tuesday, August 22, 1995

8:00 a.m. Meet in the lobby of the Radisson University Hotel for transport to the Vocational and Technical Education Building on the St. Paul Campus of the University of Minnesota

8:30 a.m. Convene in room R390 of the Vocational and Technical Education Building

Morning Session

Questions

Q6: (Cont.) What should be the learner outcomes for the future two-year institution?

Q7: Who should be the market for the results of this project?

11:45 a.m. Lunch (We will be joined for lunch by the Work Group on New Designs for Two-Year Institutions of Higher Education which has been assisting in developing the design process and direction for the project. The Work Group will be sharing some of their thoughts on design criteria for future two-year institutions. Lunch will be served in room R390.)

1:15 p.m. **Afternoon Session**

Questions

Q8: What are the dates, places, and tentative agendas for the next two National Design Group meetings? (We hope some of you would be willing to host a meeting on the site of a two-year institution of higher education.)

Q9: How should we approach the development of desired characteristics or specifications for the *learning process* in the future two-year institution?

Q10: How can we improve the quality and productivity of future National Design Group meetings?

3:30 p.m. Adjournment

New Designs for Two-Year Institutions of Higher Education

NATIONAL DESIGN GROUP

Meeting II
University of Minnesota–Twin Cities
December 14, 15, and 16, 1995

Thursday, December 14, 1995

7:30 p.m. to 10:00 p.m.	St. Paul Hotel 350 Market Street St. Paul, MN 55102 (800) 292-9292 Fax: (612) 228-9506 Check-in: 3:00-7:00 p.m.

Dinner Meeting

Welcome

George H. Copa and William Ammentorp
Co-Directors

Introductions

Questions

Q1: What did we accomplish at Meeting I regarding the following:

- Design Context
- Learning Signature
- Learning Outcomes

Q2: What thoughts and conversations have we had following the accomplishments at Meeting I?

Friday, December 15, 1995

8:00 a.m. Pick up at hotel

8:30 a.m. to R390 Vocational Technical Education Building
4:30 p.m. 1954 Buford Avenue
St. Paul Campus
(612) 624-4003
Fax: (612) 624-4720

8:30 a.m. to **Morning Session**
11:15 a.m. ***Question***

Q3: What *learning process* will lead to the accomplishment of proposed learning outcomes for students in two-year institutions of the future?

- What do the *design criteria* suggest about *learning process*?
- What does the *learning signature* suggest about the *learning process*?
- What do the *learning outcomes* suggest about the *learning process*?

11:30 a.m. to **Luncheon Session**
1:00 p.m. R280 Vocational and Technical Education Building

Joined by the Leadership Development Council of the Leadership Academy for Two-Year Institutions of Higher Education at the University of Minnesota.

Panel Discussion

"The Implications of 21st Century Work, Family, and Community Life for Desired *Learning Process*"

- **"On Being Relevant to Work Life"**
  James Stone III, Associate Professor, Education for Work and Community, University of Minnesota

- **"On Being Relevant to Family Life"**
  Marilyn Rossmann, Associate Professor and Coordinator, Family Education, University of Minnesota

- **"On Being Relevant to Community Life"**
  Rob Shumer, Program Director, National Center for Service Learning, University of Minnesota

1:30 p.m. **Afternoon Session**

Questions

Q3: (Cont.) What *learning process* will lead to the accomplishment of proposed learning outcomes for students in two-year institutions of the future?

- Discussion of the working paper, "Learning Process."
- What should be the *design specifications for the learning process*?

Q4: How should we *market* New Designs for Two-Year Institutions?

- Continuation of discussion from Meeting I

4:30 Cab rides to the St. Paul Hotel

Friday Evening

No scheduled dinner—suggested list of restaurants will be provided

8:00 p.m. St. Paul Chamber Orchestra Concert
Ordway Music Theater (located near the hotel)
After concert, dessert at the St. Paul Grille, St. Paul Hotel

Saturday, December 16, 1995

9:00 a.m. to St. Paul Hotel – meeting and lunch
3:30 p.m. Harriet Bishop Conference Room

Questions

Q5: From the design work that has been done up to this time, what important issues, questions, or concerns need more discussion?

Q6: How should we approach *organization for learning* in the future two year institution in view of the design criteria, learning signature, learning outcomes, and learning process?

- Organization of *learners*?
- Organization of *learning time*?
- Organization of *learning settings*?
- Organization of *learning process*?
- Organization of *staff*?
- Organization of *decisionmaking*?
- Organization of *learning technology*?
- Organization of ____________?
- What *concepts, people, and places* should we be exploring?

Q7: What are the plans for 1996?

- Miami-Dade Community College meeting and focus groups
- American Association of Community Colleges Conference
- American Association of Community Colleges summer planning meeting
- University of Minnesota September meeting

Q8: How can we improve the quality of future meetings of the National Design Group?

3:30 p.m. Adjourn

Sunday, December 17, 1995

Check out 12:00 p.m.

New Designs for Two-Year Institutions of Higher Education

NATIONAL DESIGN GROUP
Meeting III
Miami-Dade Community College
Miami, Florida
February 15, 16, and 17, 1996

Hotel
Sheraton Biscayne Bay Hotel
425 Brickell Avenue
Miami, FL 33131
(305) 373-9808
Fax: (305) 373-9808

Thursday, February 15, 1996

3:00 p.m.	Check-in Dinner Individual Choice

Session I

7:30 p.m. to 10:00 p.m.	Sheraton Biscayne Hotel Bogota Room Dessert and Coffee

Questions

Q1: What did we accomplish at Meeting II regarding:

- Learning Context?
- Learning Signature?
- Learning Outcomes?
- Learning Process?

Q2: What do we wish to accomplish at Meeting III?

- Learning Organization?
- Learning Partnerships?
- Learning Staff and Staff Development?

Q3: What are the plans for site visits to Miami-Dade campuses? How can we make them a significant part of the New Designs experience during Meeting III?

Friday, February 16, 1996

Morning Session

7:30 a.m.	Pick up at hotel
7:30 a.m. to 10:45 a.m.	**Site visits** **Miami-Dade campuses**
11:30 a.m. to 4:30 p.m.	Miami-Dade, Wolfson Campus Bonnie McCabe Hall Conference Room 5507 25 N.E. 2nd Street (305) 237-3101

Luncheon Session

11:30 a.m. to 1:00 p.m.	**Welcome** Eduardo Padron President, Miami-Dade Community College District ***Questions*** **Q4: What did we learn on the site visits about *learning organization, learning partnerships, learning staff, and staff development* as relates to New Designs? What did we learn about *other elements* of the New Designs process?**
1:00 p.m. to 4:30 p.m.	**Q5: What *learning organization* will lead to the accomplishment of the proposed learning outcomes and learning process for students in the two-year institution of the future?**

- What do the design specifications for learning context, learning signature, learning outcomes, and learning process suggest about learning organization?
- Discussion of the working paper, "Learning Organization."
- How can we improve the draft design specifications for learning organization?

4:30 p.m. Van ride to hotel

7:00 p.m. Dinner
Bob and Arva McCabe
601 S. Miami Avenue

10:00 p.m. Van returns to hotel

Saturday, February 17, 1996
9:00 a.m. to Sheraton Biscayne
3:30 p.m. Buenos Aires Room

Questions

Q6: What *learning partnerships* will lead to the accomplishment of the proposed learning outcomes for students in two-year institutions of the future (given the specifications for learning process and organization)?

- What partners need to be included? Why?
- What are the design specifications for productive partnerships?

Q7: What *learning staff and staff development* will lead to the accomplishment of the proposed leaning outcomes for students in the two-year institutions of the future (given the specifications for learning process, organization, and partnerships)?

- Who makes up the staff?
- What are the design specifications for effective staff?
- What are the design specifications for the necessary staff development?

Q8: From the design work that has been done up to this time, what important issues, concerns or questions need more discussion?

Q9: How should we approach the design of the *learning environment, learning costs, and learning celebrations*?

- What might the New Designs learning environment be like?
- What dimensions should be included in the specifications?
- What people, places, and concepts should we be exploring?

Q10: How should we market the New Design for Two-Year Institutions nationally and internationally?

- How do we gain access to strategic forums and audiences?
- How would the National Design Group like to be involved?

Q11: What are the plans for future meetings?

- American Association of Community Colleges National Conference, Atlanta, Georgia, April 12-16, 1996
- Meeting V
  University of Minnesota, August 1996

Q12: How can we improve the quality of future meetings of the National Design Group?

3:30 p.m. Adjourn

CONTINUING DESIGN PROCESS

I. **New Design Group Staff conduct faculty focus groups**
DeKalb Community College
Decatur, Georgia
April 12, 1996

Learning Organization:
Student's Time
Learning Process
Staff
Settings
Technology
Decisions and Governance

II. **Presentation of the "Learning Outcomes and the Learning Process for New Designs for the Two-Year Institution of Higher Education."**
Graduate Seminar
Council of Colleges and Universities in conjunction with the American Association of Community Colleges National Convention, Atlanta, Georgia
Sunday, April 14, 1996

III. **National Design Group Meeting IV**
Atlanta Hilton (in conjunction with the American Association of Community Colleges National Convention)
Atlanta, Georgia
April 14, 1996

Attending: Jacquelyn Belcher, Robert McCabe, Augustine Gallego, and Ruth Silverthorne.
Project staff: George Copa and Sandra Krebsbach

Q1: What should be the characteristics of a learning environment that supports the learning signature, learning outcomes, learning process, learning organization envisioned for New Designs for the Two-Year Institution? (Including response to environmental concepts and strategies being proposed by Bruce Jilk to assist us with the design of the learning environment.)

IV. National Design Group
Meeting IV
Radisson Metrodome
Minneapolis, Minnesota

National Design Group members present: James Fasier and Bruce Jilk
Project resource persons: Neil Christenson and Pam MacBrayne
Project staff: George Copa, William Ammentorp, and Sandra Krebsbach

Q1: What should be the characteristics of a learning environment that supports the learning signature, learning outcomes, learning process, and learning organization envisioned for New Designs for the Two-Year Institution? (Including response to environmental concepts and strategies being proposed by Bruce Jilk to assist us with the design of the learning environment.)

V. National Design Group members teleconference or other strategies for those not present at the Atlanta meeting.

April 17-May 9, 1996
Attending: Paul Cole, Dorothy Horrell, and Sally Novetzke
Project resource person: Neil Christenson
Project staff: George Copa, William Ammentorp, and Sandra Krebsbach

Q1: What should be the characteristics of a learning environment that supports the learning signature, learning outcomes, learning process, and learning organization envisioned for New Designs for the Two-Year Institution? (Including response to environmental concepts and strategies being proposed by Bruce Jilk to assist us with the design of the learning environment.)

New Designs for Two-Year Institutions of Higher Education

NATIONAL DESIGN GROUP
Meeting IV
Atlanta Hilton
Atlanta, Georgia
April 14, 1996
11:15 a.m.-12:15 p.m.

Sunday, April 14, 1996

Questions

Q1: What other New Designs activities are taking place in April?

Q2: What should be the characteristics of the *learning signature* and *learning environment* that support the *learning outcomes*, the *learning process*, the *learning organization*, the *learning partnerships*, and *learning staff* envisioned for New Designs?

- Learning signature
- Learning outcomes
- Learning process
- Learning organization
- Learning partnerships
- Learning staff

Q3: What are your comments and suggestions for the learning environment, concepts, and specifications proposed by Bruce Jilk to assist us with designing the learning environment?

Q4: Who are the people, what are the concepts, and where are the places we should be investigating as we develop the design specifications for the learning environment?

New Designs for Two-Year Institutions of Higher Education

NATIONAL DESIGN GROUP
Meeting IV
Radisson Metrodome
Minneapolis, Minnesota
April 26, 1996
7:30 p.m.-9:00 p.m.

Thursday, April, 1996
Questions
Q1: What other New Designs activities are taking place in April?

Q2: What should be the characteristics of the *learning signature* and *learning environment* that support the *learning outcomes*, the *learning process*, the *learning organization*, the *learning partnerships*, and *learning staff* envisioned for New Designs?

- Learning signature
- Learning outcomes
- Learning process
- Learning organization
- Learning partnerships
- Learning staff

Q3: What are your comments and suggestions for the learning environment, concepts, and specifications proposed by Bruce Jilk to assist us with designing the learning environment?

Q4: Who are the people, what are the concepts, and where are the places we should be investigating as we develop the design specifications for the learning environment?

New Designs for Two-Year Institutions of Higher Education

NATIONAL DESIGN GROUP
Meeting V
Radisson Hotel Metrodome
615 Washington Avenue SE
Minneapolis, Minnesota
August 16-18, 1996

AGENDA

Friday, August 16, 1996

2:00 p.m. to 6:00 p.m. ***Questions***

Q1: What do we want to accomplish in Meeting V?

- Review of previous design work on the project
- Design specifications, new designs, and rationale
    - Learning environment
    - Learning finance
    - Learning celebration
- Transitions to new designs
- Final report
- Next steps

Q2: What have we accomplished to-date regarding design specifications and New Designs for the Two-Year Institution of Higher Education?

- Learning context
- Learning signature
- Learning outcomes
- Learning process
- Learning organization

- Learning partnerships
- Learning staff and staff development

Q3: What are the *design specifications and new designs for the learning environment* that will lead to the accomplishment of the learning signature, outcomes, process, organization, partnerships, and staffing for two-year institutions of higher education?

- Design specifications drawn from previous design elements
- Key concepts
- New designs

6:30 p.m. to *Dinner and Celebration*
9 00 p.m.

Saturday, August 17, 1996

8:00 a.m. to *Questions*
12:00 Noon **Q4: What are the *design specifications and new designs for learning finance (cost and revenue)* that will lead to accomplishment of previous design elements of new designs for the two-year institution of higher education?**

- Design specifications drawn from previous design elements
- Key concepts
- New designs

Q5: What are the *design specifications and new designs for learning celebration* that will lead to accomplishment of previous design elements of new designs for the two-year institutions of higher education?

- Design specifications drawn from previous design elements
- Key concepts
- New designs

12:00 Noon to *Lunch*
1:00 p.m.

1:00 p.m. to 4:30 p.m. ***Questions***

Q6: What are the *strategies for making the transition* from current designs and operations to new designs for two-year institutions of higher education?

- Positioning current design and operation
- Setting priorities for transitions
- Benchmarking against new designs
- Moving from strategic to tactical planning

Q7: What are the next steps in new designs for the two-year institution of higher education?

- Completion of final project report
- Full report and executive summary
- Time schedule
- Preparing final draft
- Reviewing final draft
- Dissemination of new designs
- Internet
- Press conference
- Presentations targets
- Article targets
- Technical assistance targets
- Project continuation
- Continued funding
- Updates, new designs (national and international), partnerships
- Involvement of National Design Group

4:30 p.m. ***Adjourn***

APPENDIX 3:
CONTACTS FOR ILLUSTRATIONS OF NEW DESIGNS

Learning Signature
Jack Briggs, President
Fond du Lac Tribal and Community College
2101 14th Street
Cloquet, MN 55720
(218) 879-0804

Norm Nielsen, President
Kirkwood Community College
6301 Kirkwood Boulevard SW
Cedar Rapids, IA 52406
(319) 398-5411

Learning Outcomes
Torrens Valley Institute
100 Smart Road
Modbury, South Australia 5092
(08) 207-8000

Learning Process
Kamala Anandan
Project SYNERGY
Miami-Dade Community College
11011 S.W. 104th Street
Miami, FL 33176
(305) 237-2540

Augustine P. Gallego, Chancellor
San Diego Community College
3375 Camino Del Rio South
San Diego, CA 92108
(619) 584-6957

Learning Organization

Brother Louis DeThomasis, President
St. Mary's University
Winona, MN 55987
(507) 457-1496

Augustine P. Gallego, Chancellor
San Diego Community College
3375 Camino Del Rio South
San Diego, CA 92108
(619) 584-6957

Learning Partnerships

Augustine P. Gallego, Chancellor
San Diego Community College
3375 Camino Del Rio South
San Diego, CA 92108
(619) 584-6957

Norm Nielsen, President
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6301 Kirkwood Boulevard SW
Cedar Rapids, IA 52406
(319) 398-5411

Dorothy Horrell, President
Red Rocks Community College
13,000 300 W. 6th Avenue
Lakewood, CO 80228
(303) 988-6160

Learning Staff and Staff Development
Marie Nock, Director
Training and Development
Miami-Dade Community College
Kendell Campus
Miami, FL 33176
(305) 237-2258

Naomi Story, Director
Faculty and Staff Development
Maricopa Community College District
2411 W. 14th Street
Tempe, AZ 85281
(602) 731-8000

Learning Environment
Bruce Jilk, Architect and Educational Planner
Cuningham Group
201 Main Street, Suite 325
Minneapolis, MN 55414
(612) 617-2982

Learning Finance
Norm Nielsen, President
Kirkwood Community College
6301 Kirkwood Boulevard SW
Cedar Rapids, IA 52406
(319) 398-5411

H. Victor Baldi, President
Fox Valley Technical College
Appleton Campus
1825 N. Bluemound Drive
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Gary T. Nakai
Wisconsin Manufacturing Extension Partnership
432 N. Lake Street
Suite B121-B
Madison, WI 53706-1498
(608) 251-7606